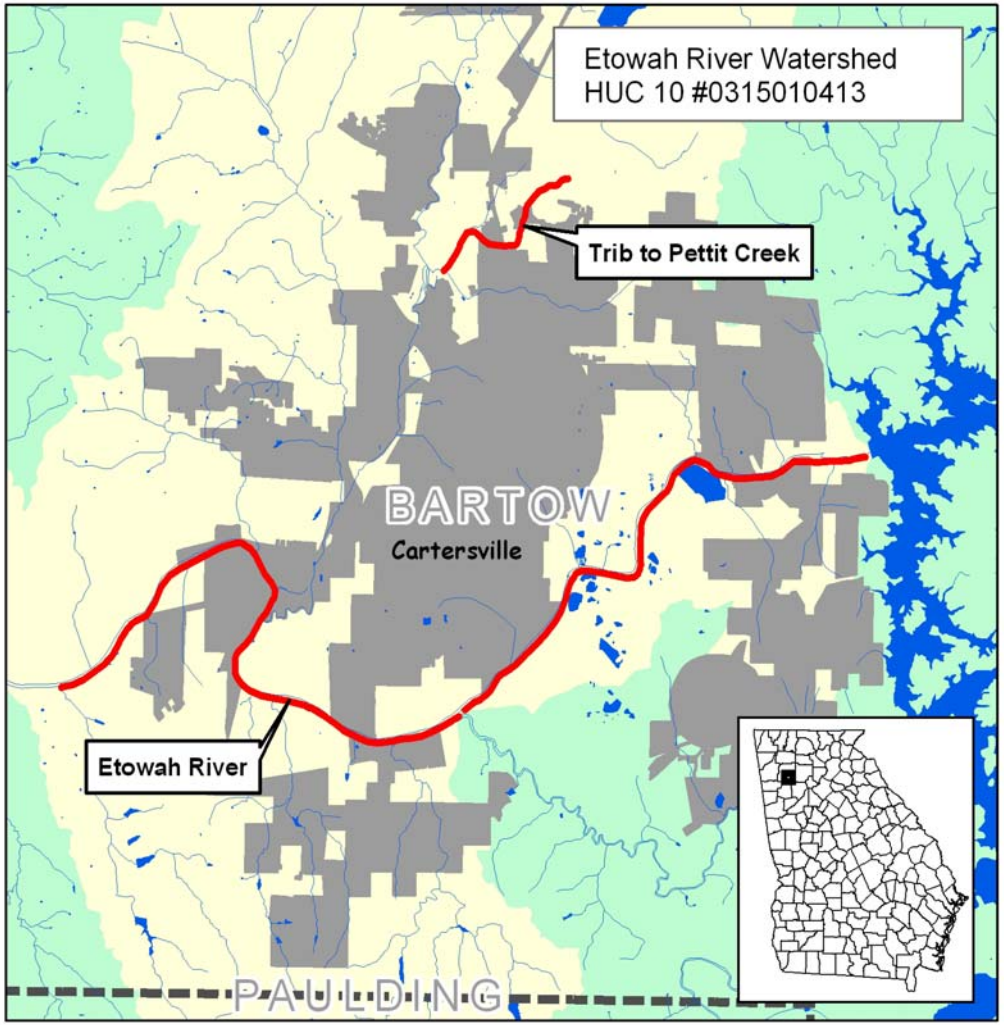
STATE OF GEORGIA
TIER 2 TMDL IMPLEMENTATION PLAN REVISION 1
Etowah River
Coosa River Basin
April 28, 2006

Bartow County, City of Cartersville



I. INTRODUCTION

Total Maximum Daily Load (TMDL) Implementation Plans are platforms for evaluating and tracking water quality protection and restoration. These plans have been designed to accommodate continual updates and revisions as new conditions and information warrant. In addition, field verification of watershed characteristics and listing data has been built into the preparation of the plans. The overall goal of the plans is to define a set of actions that will help achieve water quality standards in the state of Georgia.

This implementation plan addresses the general characteristics of the watershed, the sources of pollution, stakeholders and public involvement, and education/outreach activities. In addition, the plan describes regulatory and voluntary practices/control actions (*management measures*) to reduce pollutants, milestone schedules to show the development of the management measures (*measurable milestones*), and a monitoring plan to determine the efficiency of the management measures.

Table 1. IMPAIRMENTS

IMPAIRED STREAM SEGMENT	IMPAIRED SEGMENT LOCATION	IMPAIRMENT	TMDL ID
Etowah River	Lake Allatoona to Richland Creek	Fecal Coliform Bacteria	CSA0000042
Tributary to Pettit Creek	Cartersville	Fecal Coliform Bacteria	CSA0000114
Etowah River *	Richland Creek to Euharlee Creek	FCG (PCBs)	CSA0000047
Etowah River *	Lake Allatoona to Richland Creek	FCG (PCBs)	CSA0000076

* Plan will be written by GA EPD

II. GENERAL INFORMATION ABOUT THE WATERSHED

Write a narrative describing the watershed, HUC 10 #0315010413. Include an updated overview of watershed characteristics. Identify new conditions and verify or correct information in the TMDL document using the most current data. Include the size and location of the watershed, political jurisdictions, and physical features which could influence water quality. Describe the source and date of the latest land cover/use for the watershed. Describe and quantify major land uses and activities which could influence water quality. See the instructions for more information on what to include.

Watershed Characteristics: Etowah River from Lake Allatoona to Richland Creek

The Etowah River segment from Lake Allatoona to Richland Creek begins in the Blue Ridge Mountains near Dahlonega, Georgia and flows about 150 miles in a southwesterly direction to its confluence with the Oostanaula River at Rome, Georgia. The basin drains an area of 1,860 square miles in Georgia. The Allatoona Dam is on this river, located about 48 miles above its mouth near Cartersville, Georgia. For Bartow County and the City of Cartersville the Etowah arises from Allatoona Lake and flows a northwesterly course through Bartow into Floyd County. This segment of the Etowah drains the City of Cartersville, and impervious surfaces may form a large percentage of the watershed. The area outside Cartersville is predominately rural, with the exception of recreational development along Lake Allatoona.

The Etowah River was sampled at US Highway 41 in 2001 and was scheduled to be sampled at SR 293, at Douthit Ferry Road, and at the Allatoona Dam above Cartersville for 2005 in this segment.

The Etowah River, with banks 25 feet high along the flood plain, varies in width from 100 to 300 feet. The principal streams contributing to the Etowah River are the Little River of Georgia which drains a 210 square mile area, Euharlee, Pumpkinvine and Allatoona Creeks.

A widening project for Highways 61 and 113 has been halted pending the outcome of a current archeological investigation of the Leake Mound Site. This site is located in the watershed on the Etowah River at Roland's Bend, two miles downstream from the Etowah Mounds. Southern Research, Historic Preservation Consultants, Inc. is performing the research. The Leake Site is thought to predate the Etowah Indian Mounds by a thousand years.

The Etowah Mounds National Historic Preservation Site is located on the Etowah River near Highway 113 and 61. The 54-acre site is the best-preserved example of Mississippian Culture in the Southeastern United States. Educational tours include environmental education and river bank cleanups for students.

From 1990 to 2000 Bartow County's percent growth was 36%; the projected growth rate from 2000- 2010 is 24% (Lake Allatoona Preservation Authority, 2002). Demand for water as well as the need to protect the quality of water in the watershed is expected to increase.

Red Top Mountain State Park and Lake Allatoona are located to the east of this watershed. The US Army Corps of Engineers established the Lake Allatoona dam to provide flood control, power generation, and standardized navigation levels. It supplies drinking water to over 600,000 residents. The lake contains 12,000 acres with 270 miles of shoreline. Day use areas and camping facilities are operated around the lake. Red Top Mountain State Park is located on the western side of the lake, just off of I-75 and US 41. The state park contains 1,562 acres. Bartow County manages two parks along the lake as well: Bartow Beach/Gatewood Park and Bartow Carver Park.

The Lake Allatoona Preservation Authority, created in 1999 as a public corporation to protect Lake Allatoona, has partnered with the US Army Corps of Engineers, Victoona Civic Club, Inc., and other donors to complete a watershed assessment and protection plan, the Lake Allatoona Watershed Ecosystem Restoration and Resource Protection Study (LAPA, 2006). The study involved a drainage area of 1,100 square miles from the North Georgia Mountains to the Allatoona Dam.

A 1997 USEPA Clean Lakes Study of Lake Allatoona by the A.L. Burruss Institute of Public Service at Kennesaw State University indicated that erosion and sedimentation, phosphorus loadings, and bacterial sources threatened the lake's water quality. To address this study as well as the 303(d) listed stream segments in the watershed, a Source Water Assessment Plan was developed in 2002 for the Lake Allatoona region including the City of Cartersville (LAPA, 2002).

As detailed in the SWAP (LAPA, 2002), the City of Cartersville Water System has a permitted withdrawal of 27 MGD from the Lake Allatoona drinking water intake, Clarence B. Walker WTP, and a withdrawal of 5 MGD from its secondary intake on the Etowah River for approximately 23,000 households. City of Cartersville monitors for turbidity, pH, alkalinity, iron, manganese, hardness, and temperature. The City of Cartersville's Water Department received the 2005 Laboratory Quality Assurance Award from the Georgia Association of Water Professionals for the second year in a row. The SWAP found a medium overall susceptibility rating with drinking water in compliance with water quality standards (LAPA, 2002). Potential pollutant sources in inner and outer management zones included rural residences, boats and houseboats, and industrial activities; specifically, the SWAP was concerned with release of wastewater from boats' gray water systems as well as illicit dumping of watercrafts' holding tanks, especially houseboats, and possibility of leaking or failing septic systems (LAPA, 2002). Recommendations included requiring receipts for pumpouts for overnighting houseboats on the lake, as well as an inventory of septic systems in the City of Cartersville area (LAPA, 2002). Significant population density in the area made septic system maintenance programs with pumpouts and inspections a priority (LAPA, 2002).

Field survey results showed the area near Lake Allatoona is less developed and easily accessible to waterfowl, deer, and birds. Industrial and mining operations, as well as homes built along the Lake and on the Etowah River. Near the Etowah Indian Mounds, subdivisions and residential development were seen. Inside city limits, residential and commercial development increase. Inside Cartersville city limits, along the Etowah, the area has industry on both sides. Despite the City's efforts to keep the area clear, the public has used the area to fish, and dump garbage and debris near the river. Birds were seen, along with deer tracks.

Land use

Total acreage of the watershed is 149, 602 acres. Land Use categories include the following: The majority (70.5%) of lands are forest, at 105,448 acres; 10% are low intensity residential at 14,982 acres; row crops form 7.0% at 10,471 acres; six percent of lands are pasture/hay at 8,952 acres; 1.9% of lands are high intensity commercial at 2,901 acres; 1.5% of lands are high intensity residential at 2,198 acres; and the following each form less than 1%, including transitional, other grasses, woody wetlands, open water, quarries/strip mines/gravel pits and emergent herbaceous wetlands (DNR, 2004). The data on land use are taken from Georgia DNR publication *Total Maximum Daily Load Evaluation for Fifty-Eight Stream Segments in the Coosa River Basin for Fecal Coliform* (2004). This is the most recent land use data available for this watershed. As the comprehensive plan for Bartow County is completed in 2007 more recent land use data can be used to update these plans if available.

The Etowah River is a receiving water for many NPDES dischargers, especially from the Old Mill Road Industrial Park area: First Brands (Glad), permit # GA0000591; New Riverside Ochre Products, permit # GA0029823; Chemical Products, permit # GA0001295; Baroid Drilling Fluids, permit # GA0001287; Cartersville WPCP, permit # GA0024091; Bartow County Southeast WPCP, permit # GA0037664; and Georgia Power Plant Bowen, permit # GA0001449.

There are no CAFO's in this watershed.

Watershed Characteristics: Tributary to Pettit Creek

Tributary to Pettit Creek headwaters from drainage water coming from the cloverleaf transportation area at Tennessee Street intersecting with Highway 61 North. It flows under the US Route 41 and 411 bridge, and runs through commercial and residential area before entering Pettit Creek. It begins near the transportation cloverleaf area of North Tennessee Street and receives runoff from streets and residential yards located around the tributary before entering Pettit Creek.

The tributary was scheduled to be sampled at County Road 450 in 2005.

Field survey notes indicated that residential and commercial as well as some greenspace characterize this area. With increasing development seen in the City of Cartersville comes increasing amount of impervious surfaces such as highways, parking lots and railways, as well as potential for increased urban runoff.

Land Use
The land use since 2001 has increased in high intensity commercial/transportation and decreased in the percentage of row crops in the area. Land use, for a total of 1,425 acres, includes the following: The majority (56.3%) of lands are forest at 802 acres; high intensity commercial/transportation forms 14.7% at 210 acres; high intensity residential forms 11.4% at 162 acres; row crops form 8.4% at 119 acres; the following each form less than five percent of land use- other grasses, pasture/hay, and open water (GDNR, 2004). The data on land use are taken from Georgia DNR publication *Total Maximum Daily Load Evaluation for Fifty-Eight Stream Segments in the Coosa River Basin for Fecal Coliform* (2004). This is the most recent land use data available for this watershed.

Relevant Watershed Planning and Management Activities

Erosion and Sedimentation Control:

The City of Cartersville and Bartow County are Local Issuing Authorities for E & S permitting of land-disturbing activities which are required to submit an NOI under the NPDES General Permit for Construction Activity.

The City of Cartersville has its Soil Erosion and Sediment Control Ordinance (Article VII) that applies to any land disturbing project one (1) acre or larger or within two hundred (200) feet of the bank of any state waters.

Bartow County revised its E & S Control ordinance in 2002. It meets current Georgia E & S requirements. This ordinance applies to land disturbing activities on one acre of land or more. It is administered by the Bartow County Engineer through the Planning and Zoning Department. It is currently being reviewed and updated to include recommendations developed by a regional habitat conservation plan, the Etowah Habitat Conservation Plan. The Etowah Habitat Conservation Plan is a joint effort of municipalities, water authorities, developers, industry, the University of Georgia, Kennesaw State University, Georgia DNR, the US Fish and Wildlife Service, and others in the Etowah River watershed to protect threatened and endangered species of darter by developing a regional conservation plan. The plan allows included jurisdictions to be in compliance with the Federal Endangered Species Act and to obtain an Incidental Take Permit from the US Fish and Wildlife Service for development activities. Additionally the County is currently reviewing and updating all regulations and processes in its development code.

According to the Bartow County Watershed Assessment and Protection Plan, there are six standard operating procedures required of local governments for erosion and sediment control. These include a bonding program for workers, a requirement for semi-monthly reporting, weekly county inspections at each site, addition of erosion and sedimentation to the building inspectors' checklist, two required pre-construction meetings with site planner and crew, and lastly, the designation of an on-call erosion and sedimentation expert for the project. Some of these requirements may be revised in light of the recent erosion and sedimentation certification requirements.

House Bill 285 requires state certification in E & S Control for anyone involved in the following activities: land development, design, review, permitting, construction, monitoring, inspection, or any land-disturbing activity in Georgia (Georgia Soil and Water Conservation Commission, 2005). This certification is done through training by the Georgia Soil and Water Conservation Commission in consultation with Georgia Environmental Protection Division and the Stakeholder Advisory Board. The GSWCC also has updated requirements for E&SC plans to be submitted with each project. Certification requirements apply to all such persons in Bartow County. Certification is offered through the Rolling Hills Regional Conservation and Development Council (RC & D) for Bartow County. The County itself has held one class for Level 1A certification in December 2005; other certification level training classes are planned.

Georgia Forestry Commission Best Management Practices

The Forestry Commission has implemented best management practices on its lands to reduce sedimentation and erosion from silviculture practices. The Georgia Forestry Commission also provides education, technical and financial assistance through cost-share programs to private landowners especially in the Forestland Enhancement Program, a part of the 2002 Farm Bill. Ongoing Georgia Forestry Commission activities include the following programs.

- Federal Clean Water Act Section 404: GFC received referrals from EPA for compliance determinations in situations involving forestry. It requires normal ongoing agricultural and silvicultural practice to adhere to BMPs and 15 baseline provisions for road construction and maintenance in and across waters of the US including lakes, rivers, perennial and intermittent streams, wetlands, sloughs in order to qualify for the exemption from the permitting process.
- Georgia's Best Management Practices: A GFC program to inform landowners, foresters, timber buyers, loggers site preparation and reforestation contractors and others involved with silvicultural operations about commonsense, economical effective practices to minimize nonpoint source and thermal pollution. GFC encourages and monitors compliance and conducts a complaint resolution program.
- Georgia Forestry Commission Monthly BMP Assurance Examination: In an effort to document "reasonable assurance" that water quality will be proactively protected during regular ongoing silvicultural operations, the GCF will offer a monthly BMP assurance examination of active sites. All activity of ongoing sites will be identified either through monthly air patrol flights, courthouse records, riding the roads, notification or by landowners. Sites located within watersheds of specific biota (sediment) impaired streams will be given a higher priority to identify and conduct examinations.
- Memo to the Field: Application of BMPs to mechanical silvicultural site preparation activities for the establishment of pine plantations in the Southeast (Silviculture). Although overseen by the EPA/ US Army Corps of Engineers, cases are normally referred to GFC to make the initial determination. It identifies certain bottomland hardwood wetlands that should be subject to permitting if converting to pine plantations.

Department of Natural Resources Best Management Practices

The Department of Natural Resources, Wildlife Management Division provides outreach to landowners on prevention of soil erosion and sedimentation from land-disturbing activities contributing to habitat destruction, advises landowners of best management practices and habitat

development for increased wildlife on their property, and encourages landowners to implement conservation practices on their lands through the NRCS.

2002 Farm Bill, US Department of Agriculture Natural Resources Conservation Service and Farm Service Agency

The Farm Security and Rural Investment Act of 2002 (Farm Bill 2002) funded conservation practices for farmers and ranchers with a focus on environmental issues by making existing programs simpler as well as funding new programs. The 2002 Farm Bill enhances the long-term quality of our environment and conservation of our natural resources. This bill provides several opportunities for receiving grants to improve water quality. These include the following programs administered by the US Department of Agriculture, Natural Resources Conservation Service and Farm Service Agency.

- The Federal Farm Bill (Swampbuster Ag) prohibits landowners participating in federal price support programs from converting forested wetlands to agriculture.
- The Water Bank Act preserves, restores and improves wetlands of the Nation and thereby conserves surface waters to preserve and improve habitat for migratory waterfowl and other wildlife resources to retire lands not in agricultural production to enhance the natural beauty of the landscape and to promote comprehensive and total water management planning.10-year contracts with landowners to preserve wetlands and retire adjoining agricultural lands. Annual payments may be made to participating owners, and the costs of conservation measures may be shared. Total annual payments to owners were limited to $10 million in any year.
- The Conservation of Private Grazing Land Program will offer technical assistance opportunities for better grazing land management. Projects for improving water quality include: protecting soil from erosive wind and water; conserving water; providing habitat for wildlife; sustaining forage and grazing plants. This is not a Cost-Share Program.
- Conservation Security Program (CSP) is the first program that rewards farmers and ranchers for high levels of environmental stewardship. Producers on cropland, orchards, vineyards, pasture and range may apply for CSP regardless of size, type of operation, or crops produced. Land in other cost share programs is not eligible. CSP will first be offered in watersheds with greatest potential for improving water quality, soil quality and grazing land condition. In 2005, the four watersheds of focus will be the Ichawaynochaway, Kinchagoonee-Muckalee, Middle Flint, and Upper Ochlockonee. An enhancement example is to install a riparian buffer. There are three tiers of involvement, which result in different expectations and cost share opportunities.
- Environmental Quality Incentives Program (EQIP) is a voluntary program that provides technical and cost share assistance for protection of ground and surface water, erosion control, air quality, wildlife habitat, and plant health. It is a 50% cost share with possible additional incentive payments.
- Wetlands Reserve Program (WRP) provides technical and financial assistance to landowners to enhance wetlands degraded by farming or draining. There are three options with WRP to receive funds that have differing time agreements and easements resulting in different cost share. In all programs participants control access to the land, may lease or use land for hunting, fishing, and other passive recreational activities. Compatible uses are allowed as long as they do not degrade the wetland. Permanent Easement pays appraised value of land ($2,000/ acre cap) and 100% of costs of restoration. The 30-Year Easement pays 75% of appraised value of land and 75% of restoration costs. The Restoration Cost Share Agreement pays 75% of restoration costs, no easement on the property.
- The Conservation Reserve Program (CRP) provides technical assistance, rental payments and cost share funding to address specific natural resource concerns including: protection if ground and surface waters, soil erosion and wildlife habitat. Eligible practices include tree planting, grassed waterways, wildlife habitat buffers, and shallow water area for wildlife and filter strips. An annual rental payment is given for land taken out of production and 50% cost share for practice installation.

Metropolitan North Georgia Water Planning District Model Ordinances

Bartow County is a member of the Metropolitan North Georgia Water Planning District, which was created by the Georgia General Assembly to establish policy, create plans and promote intergovernmental coordination of all water issues in the area from a regional perspective. The county is included in the Metropolitan Water Planning District's Watershed Management Plan, which includes six protection strategy areas:

- Point Source Management
- Storm Water Management
- Total Maximum Daily Loads (TMDLs)
- Watershed Improvement
- Intergovernmental Coordination
- Long-term Monitoring

The MNGWPD Watershed Management Plan required each member to adopt these six model ordinances:

- Ordinance for Post-Development Stormwater Management for New Development and Redevelopment
- Floodplain Management/Flood Damage Prevention Ordinance (in review)
- Conservation Subdivision/Open Space Development Ordinance
- Illicit Discharge and Illegal Connection Ordinance
- Litter Control Ordinance
- Stream Buffer Ordinance

Bartow has adopted five of six Model Storm Water Management Ordinances that address Post Development Storm Water Management for New Development and Redevelopment, Conservation Subdivision/ Open Space Development, Illicit Discharge and Illegal Connection, Litter Control, and Stream Buffer Protection as required by Georgia EPD in MS4 Phase II Permit Renewals. The District Plan also addresses municipal good housekeeping practices to control non-point source pollution; improved enforcement of erosion and sedimentation control; storm water management for transportation projects; and education and public awareness activities. Bartow County has not adopted the District's Floodplain Management/Flood Damage Prevention Ordinance, as it is being reviewed by the District. Bartow's current flood plain ordinance meets national flood insurance requirements and was revised as of 2000.

Existing floodplain management ordinances will be revised as counties participate in updating their flood hazard regions through the National Flood Plain Insurance Program/ Georgia DNR Floodplain Management Office Flood Map Modernization Program.

Bartow County Board of Tax Assessors is considering a proposed tax relief program for property owners who place conservation easements on all or part of their properties, especially for greenspace on timberland.

The City of Cartersville is currently in the process of adopting the District's model ordinances. Some ordinances require review and coordination with existing development codes for compatibility of requirements.

Bartow County Watershed Assessment and Protection Plan

Between 1990 and 2000 Bartow County experienced a 36% growth rate; subsequently the County began the Bartow County Growth Management Plan, completed in 1997, which was based on input from local residents and economic development experts and which suggested specific growth management strategies including expansion of water and wastewater treatment operations.

In 2000 Bartow County contracted with Kennesaw State University to conduct a watershed assessment as part of the watershed assessment and protection plan development requirements for existing and new wastewater treatment plants under NPDES. This assessment indicated that overall, streams in Bartow County were in "moderately good condition relative to other systems in the Atlanta metropolitan area (KSU, 2001)." However, the report pointed out that fecal waste among other impairments was present in individual streams including Lower Pumpkinvine Creek, Lower Stamp Creek, Salacoa Creek, Lower Euharlee Creek, Upper Two Run Creek, Upper Pettit Creek, Cedar Creek, Pine Log Creek, and Richland Creek (KSU, 2001). Some of these creeks were placed on the 2004 303 (d) impaired streams list for fecal coliform bacteria. Pettit Creek (Upper and Lower) was tested for fecal coliform and found to be in keeping with state water quality standards. Enterococci was measured as well. Fecal coliform was not elevated during wet events compared to dry events but enterococci was elevated in wet events, suggesting that runoff or resuspension of bacteria previously in streambed sediment had occurred. Study suggested that sources were mostly likely a combination of bird, human, and vegetation.

Bartow County is considering expansion of the Bartow County Wastewater Treatment Plant in 2006-2007 and has conducted a county watershed assessment and developed the Bartow County Watershed Protection Plan as part of its expansion process to meet NPDES permitting standards. The watershed assessment results relate directly to the TMDL initiative.

Bartow County's Watershed Assessment and Protection Plan strategies were developed according to the Metropolitan North Georgia Water Planning District (District) Water Management Plan of 2003. The protection plan strategies include point source management, storm water management, the Total Maximum Daily Load initiative, watershed improvements, intergovernmental coordination and long-term monitoring. These strategies are covered as part of the District's Water Management Plan as well as the TMDL implementation plans.

Stormwater Management

Bartow County has an NPDES-permitted Small Municipal Separate Storm Sewer System (MS4) and is subject to the Phase II Stormwater Rules. These extended Phase II permitting rules include six parameters that deal with water quality including 1. Public Education and Outreach; 2. Public Participation and Involvement; 3. Illicit Discharge Detection and Elimination; 4. Construction Site Runoff Control; 5. Post-Construction Runoff Control; 6. Pollution Prevention and Good Housekeeping. Bartow County's NOI for its NPDES Phase II Stormwater Permit for a small MS4 was approved in 2005. The stormwater system extends to the urbanized areas of the County while education and outreach components in the management plan extend countywide.

Components of Bartow County's NPDES Phase II Stormwater Management Plan involving Public Education and Outreach include the following:

- School System Stormwater Presentations provided yearly to teachers, students in county and city elementary and middle grades by the Keep Bartow Beautiful Coordinator;
- E & S Training Workshop on appropriate measures to control runoff and pollution provided biannually to the Bartow County Homebuilders' Association coordinated by the Bartow County Director of Engineering;

- Speaker's Bureau to speak on stormwater topics to area civic groups, with speakers to include County Administrator, Bartow County Water Superintendent, Stormwater personnel, and Keep Bartow Beautiful Coordinator;
- Stormwater Educational Materials, including a variety of flyers and pamphlets on E&S practices for homebuilders, new homeowners, and other topics such as septic system maintenance, xeriscape landscape plans, and proper fertilizer/pesticide application, developed by the Clean Water Campaign, P2AD, and EPA;
- Stormwater Management web page on the Bartow County Engineering Department's web space to include lawn and garden activity tips, water conservation, household waste disposal, household recycling, septic system maintenance, hazards of illicit dumping, and others;
- Newspaper Column on homeowners' stormwater pollution prevention responsibilities to be published quarterly in the Daily Tribune, written by the Bartow County Extension Agent.

Bartow County's Stormwater Management Plan includes 30 best management practices which include education and outreach in schools, to homeowner's associations, to the general public in brochure format, as well as news articles in the local paper dealing with stormwater management, volunteer stenciling of storm drains, and stream cleanup. These BMPs are carried out in cooperation with the County Extension Service, Keep Bartow Beautiful, the Boy and Girl Scouts, the County Engineer, and others in the County.

Bartow County is mapping stormwater drainage outfalls throughout the county to remain in compliance with its Phase II MS4 stormwater permitting. In 2006 100% of the county's stormwater outfall mapping is scheduled to be completed.

The City of Cartersville has a separate stormwater system. At this time no submission of an NOI has been required. Mapping of outfalls with GIS coordinates has been done and an inventory of the system's condition has been completed. Some improvements to stormwater drains were made based on findings of immediate need. Others will be done under the proposed stormwater authority. The final series of meetings to develop a stormwater authority is currently being held before bringing the proposal before the city council. The authority is expected to be approved and operational by Fall 2006.

Etowah Habitat Conservation Plan

The Etowah Habitat Conservation Plan reflects the work done by municipalities, water authorities, developers, industry, the University of Georgia, Kennesaw State University, Georgia DNR, the US Fish and Wildlife Service, and others in the Etowah River watershed to protect threatened and endangered species of darter by developing a regional conservation plan. The plan, including model ordinances and policies, allows included jurisdictions to be in compliance with the Federal Endangered Species Act and to obtain an Incidental Take Permit from the US Fish and Wildlife Service for development activities in the watershed, excluding agriculture and forestry. Ordinances and policies for implementation include the following:

- Stormwater Ordinance and Better Site Design
- Runoff Limits Program
- Erosion and Sedimentation Control Standard Operating Procedures
- Mass Grading Ordinance
- Stream Buffer Ordinance
- Road Crossing Guidelines
- Utility Crossing Guidelines
- Conservation Subdivision Ordinance

- Water Supply Planning

Existing municipal ordinances covering these areas can be updated. Revisions to the Metropolitan North Georgia Water Planning District Model Ordinances were recommended by the Etowah HCP subcommittees, as were revisions to the Bartow County Watershed Assessment and Protection Plan.

Specific areas of concern to the Etowah River identified by the Etowah Regional Aquatic Habitat Conservation Plan, and the corresponding actions taken by the county to address them, include:

- Poor riparian buffers
- Point sources
- Construction
- Channel erosion
- Historic sediment
- Impervious surfaces and storm water runoff
- Livestock
- Invasive Species
- Water Reservoirs

Bartow County has adopted the Metro North Georgia Water Planning District's model stormwater ordinance as revised by the Etowah HCP. The County is in the process of coordinating other existing ordinances with review of the Etowah HCP. Yet other revisions and ordinances dealing with runoff limits, road and utility crossings, are still being developed by the Etowah HCP.

Coosa River Basin Modeling Project (Georgia DNR EPD)

Georgia DNR EPD and USEPA are in the process of conducting a monitoring project to study the accuracy of the model developed for the Coosa River Basin. Monitoring is ongoing in 2005-2006 on the Coosa River and its tributaries. Data will be incorporated into the Total Maximum Daily Load (TMDL) for dissolved oxygen. The Coosa River Modeling work will be done by the Georgia DNR EPD in 2006 and 2007. A final model will link the Coosa River model and the Lake Weiss model. The combined models will evaluate oxygen demanding loads, nutrient loads, and temperature effects for heat loads, on dissolved oxygen (DO) concentrations in the Coosa River. The following data will be collected in separate modules:

- Watershed flow and temperature data
- Continuous water quality monitoring
- Water quality sampling
- Chlorophyll *a* sampling
- Wastewater treatment facility sampling and data collection (module 5)
- DO and temperature depth profiles
- Basin-wide phosphorus data
- Specialized studies
    - Reaeration measurements
    - Sediment Oxygen Demand measurements

- Long-Term Biochemical Oxygen Demand (BODs)
- Dye studies

Sites on the Etowah River will be included in the following testing modules: Flow and Temperature; Chlorophyll A; Continuous Water Quality Monitoring; Water Quality Sampling (BOD, DO, Temp, TKN, NH_3, NO_2- NO_3, total P, ortho-phosphate, TOC, conductivity, and Ph); Wastewater Treatment Facility Sampling (FC, other); BOD (Georgia DNR EPD).

Module 1: Watershed Flow and Temperature Data. This module includes the installation and annual operation and maintenance of watershed stream flow gages with temperature recorders, for two years. The data from these gages will be used either directly as model input or to estimate tributary input data for ungaged streams (Georgia DNR EPD).

Module 2: Continuous Water Quality Monitoring. Continuous water quality monitors will be installed and maintained for the study period at a number of tributary and mainstem locations. Continuous water quality monitors will be installed on the Conasauga River at the USGS gaging stations at Eton and downstream from Carters and Allatoona Dams to collect upstream boundary condition data necessary for EPD RIV-1. The monitors will record DO, temperature, conductivity, pH, and depth at hour intervals (EPD).

Module 3: Water Quality Sampling. This module includes the collection and analysis of discrete water quality samples at locations on the Coosa River mainstem and tributaries from Allatoona Dam on the Etowah River, Carters Lake on the Coosawattee River, and the USGS Eton gage on the Conasauga River to the George/Alabama State Line. The data collection will include discrete mainstem and tributary water quality sampling. The samples will be analyzed for carbonaceous and total BOD_5 (inhibited and uninhibited), DO, temperature, TKN, NH_3, NO_2-NO_3, total phosphorus, ortho-phosphate, TOC, conductivity, and pH. Flow measurements will be made at the time of sample collection (Georgia DNR EPD).

Module 4: Chlorophyll A. Periodic collection of chlorophyll A data on tributaries.

Module 5, Wastewater Treatment Facility Sampling and Data Collection, will include discharge monitoring reports (DMRs) and/or operating monitoring reports (OMRs) data from wastewater treatment plants and sampling of mainstem and tributary dischargers. The additional sampling will be done as a quality assurance check for data given by the dischargers (Georgia DNR EPD).

Module 8: Special Studies. This module includes several specialized studies including reaeration, sediment oxygen demand (SOD), long-term BOD tests, and dye studies. River, tributary and selected wastewater treatment plant effluent samples will be collected for long-term BOD analysis during the field surveys. Long-term BOD analyses will include periodic testing of nitrogen components to determine possible nitrification reactions. Aged river water will be used as dilution water, when necessary. Samples will be collected and analyzed from each location for both monitoring years (Georgia DNR EPD).

Other Watershed Activities

The Northwest Georgia Regional Water Resources Partnership (NGRWRP) was created in 2002. The NGRWRP is an organization of water permit holders, local governments, industry, environmental, and other advocacy entities in Northwest Georgia with an interest in water issues (North Georgia Regional Development Center, 2005). The purposes of the Partnership are to monitor and contribute to the development of federal, state, and local water policy; educate the citizenry on water related issues; seek funding and facilitate the development of regional water-related

assessment and planning activities; and coordinate the activities of federal, state, and local entities (NGRDC, 2005). Gene Camp, Bartow County Water Department Superintendent, serves on the partnership's executive committee.

Bartow County is also a Yellow Ribbon-level member of the P^2AD Partnership and has committed to a two-year effort (2004-2006) with Georgia Institute of Technology's Economic Development Institute to develop an Environmental Management System Program. The Yellow Ribbon level signifies that a county or other member is being proactive in addressing environmental impacts of development. The City of Cartersville and Bartow County continue to have a good working relationship in areas of water quality. City and county have cooperated in various water quality projects including the Etowah Habitat Conservation Plan, the Bartow County Watershed Assessment, Greenspace Committee, and Lake Allatoona Preservation Authority projects.

Rolling Hills Resource Conservation and Development Council conducts the Envirothon, a yearly competition for high school students, testing skills and knowledge of aquatics including water quality and other environmental topics. District and State competitions will be in March 2006. Other projects are in the proposal stages.

Adopt-A-Stream, in conjunction with Coosa River Basin Initiative (CRBI), conducts ongoing water quality chemical and biological volunteer training and monitoring, stream clean-ups, stream bank and habitat restoration, and visual stream surveys in Bartow County. Testing for fecal coliform is not practical at this time.

Get the Dirt Out is a project of the Coosa River Basin Initiative which provides volunteer training for construction site inspection and identification of failure to use BMPs in construction activities. The project was implemented in March 2005 and covers the Northwest Georgia area of the Coosa River Basin.

Keep Bartow Beautiful runs several education and outreach programs including the following: Teacher training for Waste In Place, Project WET (Water Education for Teachers), and Enviroscape non-point source pollution using tabletop models; Stormwater-related presentation materials provided to schools; and a Speakers' bureau to provide outreach on storm water issues to local civic groups. Other projects are in the proposal stages. TREESBartow is a related program to encourage tree conservation in the county. A recent project is Springbank's new tree identification trail; proposed projects include an educational Earth Day event with 200 Adairsville Middle seventh-graders. Community cleanups are scheduled for April 2006.

Rivers Alive river cleanups were done in October 2005 in three locations on the Etowah River. Partners included Keep Bartow Beautiful, US Army Corps of Engineers, and EPD Mountain District. The target audience for this outreach and clean-up event was high school students. The cleanup efforts, which will become an annual event, take place in other locations as well, and satisfy education and outreach requirements for Bartow County's NOI. A River Festival culminates the event.

Keep Bartow Beautiful has a volunteer storm drain stenciling program ongoing since 2004 which is targeted to older developments in the city of Cartersville and urbanized areas served by the MS4. New residential developments must have storm drain stenciling done by the developer.

Bartow County Greenspace Committee acquires and preserves riparian buffers in Bartow County. This steering committee was formed in 2000 in response to Governor Barnes' greenspace initiative. Criteria for land purchases in the county include the following:

- Land should help protect waterways and watersheds;

- Land should have historical or biological importance- for example, the site of an old Indian village, or a swampland or wetland area;
- Area should be beneficial to wildlife;
- Area should link other areas, allowing for wildlife corridor; and
- Land should be affordable for the county program.

Greenspace lands will be used for recreation with walking trails, and will feature restored riparian buffers and other conservation measures. The committee is funded by SPLOST funds. Proposed purchases include a tract on the South bank of the Etowah between Pumpkinvine Creek and Paga Mine Road; and property on Leake Mound, currently in the process of a historical impact study by Southern Research, Historic Preservation Consultants, Inc. The Leake Site is thought to predate the Etowah Indian Mounds by a thousand years.

The Lake Allatoona Preservation Authority, created in 1999 as a public corporation to protect Lake Allatoona, has partnered with the US Army Corps of Engineers, Victoona Civic Club, Inc., and donors to develop a restoration project on the lake, Project RESTORE (Project Repair Enhancement Stabilization Techniques to Optimize Riparian Environments). Project RESTORE was a demonstration of repair techniques to stabilize Lake Allatoona's lakeshore erosion, involving use of bioengineered natural materials construction as well as hard-armoring elements such as sea walls, concrete, rip-rap, or metal pilings. Streambank restorations included locations in Cherokee and Bartow Counties along the lake. LAPA is also working with US Army Corps of Engineers to complete a watershed assessment and protection plan, the Lake Allatoona Watershed Ecosystem Restoration and Resource Protection Study, involving a drainage area from the North Georgia Mountains to the Allatoona Dam.

III. SOURCES AND CAUSES OF STREAM SEGMENT IMPAIRMENT LISTED IN TMDLs

After reviewing the TMDLs written for this stream, complete the following tables with **the information found in the TMDLs**. List each parameter for which the stream segment is impaired and the water quality standard violated. See the instructions for the water quality standards. Describe the sources and causes of each violation identified in the TMDLs.

Etowah River
COMPLETE THE FOLLOWING TABLES FOR AND NARRATIVES ABOUT EACH IMPAIRED STREAM IN THE WATERSHED.

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Etowah River	Lake Allatoona to Richland Creek (Bartow County)	12	Fishing	NS

Table 2. SOURCES OF IMPAIRMENT AS INDICATED IN TMDLs

PARAMETER 1	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL
Fecal Coliform Bacteria (FC)	1,000 per 100 ml (geometric mean November- April) 200 per 100 ml (geometric mean May-October)	Wildlife Agricultural/Livestock • Animal grazing • Animal Access to streams • Application of manure to pastureland and cropland Urban Development • Leaking septic systems • Land Application Systems • Landfills	47 percent

Tributary to Pettit Creek

COMPLETE THE FOLLOWING TABLES FOR AND NARRATIVES ABOUT EACH IMPAIRED STREAM IN THE WATERSHED.

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Tributary to Pettit Creek	Cartersville (Bartow County)	1	Fishing	NS

III. SOURCES AND CAUSES OF STREAM SEGMENT IMPAIRMENT LISTED IN TMDLs

After reviewing the TMDLs written for this stream, complete the following tables with **the information found in the TMDLs**. List each parameter for which the stream segment is impaired and the water quality standard violated. See the instructions for the water quality standards. Describe the sources and causes of each violation identified in the TMDLs.

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PARAMETER 1	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL
Fecal Coliform Bacteria (FC)	1,000 per 100 ml (geometric mean November- April) 200 per 100 ml (geometric mean May-October)	Wildlife Agricultural/Livestock • Animal grazing • Animal Access to streams • Application of manure to pastureland and cropland Urban Development • Leaking septic systems • Land Application Systems • Landfills	94 percent from all sources

IV. IDENTIFICATION AND RANKING OF POTENTIAL SOURCES OR CAUSES OF IMPAIRMENT

INVESTIGATE AND EVALUATE the sources of impairment for each parameter listed in Table 2. Write a narrative describing efforts made or procedures used to verify the significance and extent of the sources or causes of each impairment listed in the TMDLs. Include:

- Involvement of stakeholder group
- Field surveys
- Review of land cover data
- Evaluation of sources

Verification of the significance and extent of the sources or causes of each impairment listed in the TMDLs was done through a series of field surveys and stakeholder meetings. The TMDLs list three probable causes of fecal coliform contamination: Wildlife, Urban Development, and Agricultural/ Livestock.

The impaired stream segments were visited by windshield survey to verify potential sources or causes of impairment.. A series of stops allowing visual field surveys of this segment of the Etowah River were conducted to visually evaluate stream condition including turbidity, sedimentation and erosion, stream bank condition, stream bed condition, depth, flow, and color. Field surveys also noted the presence of any factors thought to contribute to non-point sources of fecal coliform loadings including wildlife, animal grazing, animal access to streams, application of manure to pastureland and cropland, possibility of leaking septic systems, Land Application Systems (LAS), CAFOs, ·and landfills.

This data from field surveys was combined with GIS data and EPD listings of NPDES dischargers as well as information from stakeholders. Local stakeholder input was gathered in a series of stakeholder meetings; contacts with local government officials and other individuals were also used to determine actual causes or sources of stream impairment. Photographs of sources seen in the field surveys and corroborated by stakeholders are found in Appendix C.

Fecal Coliform Bacteria

Point Sources

The **City of Cartersville Biosolids WPCP Permit # GA0024091** has an NPDES permitted discharge. The discharge outfall is to the Etowah River through a diffuser located near the Highway 61 and 113 bridge over the Etowah River. The City of Cartersville recently (July 2005) had a stormwater by-pass to the Etowah River during the increased rainfall occurring from Hurricane David. EPD was notified of the spill and the City will continue an EPD required sampling program on the Etowah River for one year.

Bartow County Southeast WPCP Permit # GA0037664, also upstream of the watershed, is located on Paga Mine Road and has a permitted discharge to the Etowah River. The County will operate this facility through 2010 then begin expansion of the plant on surrounding acreage.

The **Crown Inn Permit # GA0023540** located on Tennessee Street has a permitted discharge from a sand filter to the tributary to Pettit Creek. The Cartersville District Office of Georgia EPD has regulatory jurisdiction over the NPDES permit to discharge to the tributary to Pettit Creek. Presently the Crown Inn has no discharge situation per the EPD files, in its ongoing monitoring of this permitted sand filter for any discharge of fecal coliform bacteria. This site and the corresponding tributary to Pettit Creek may be a candidate for delisting if the stakeholder advisory committee is interested in pursuing this course of action.

NPDES permitted point sources located within the watershed include the following:
Five campground or day park dischargers, including Red Top Mountain State Park, Permit # GAU020237; US Army Corps of Engineers Clark Creek Campground, Permit # GA0048305; US Army Corps of Engineers McKinney Campground, Permit # GA0047465; US Army Corps of Engineers Old Construction Site, Permit # GA0047074, a sand bed filter with intermittent discharge in addition to ground water discharge; and Allatoona Campground, Permit # GA0022616.

Other NPDES permitted dischargers are the City of Cartersville WTP, Permit # GAG640017; Stone Man, Inc. Permit # GA0047635; Riverside Products Company, Permit # GA0047333; Bartow Two Run Municipal GA0020702; Chemical Products Corporation, GA0001295; First Brands Corporation, GA0000591; Goodyear Tire and Rubber Company, GA0000515; Chemical Products Corporation, GA0000281.

Non Point Sources

Wildlife: A large portion of the Etowah River watershed (HUC 10 #: 0315010413) is still forested, outside the city limits of Cartersville, and wildlife is abundant in the form of deer, raccoons, possums and beavers. Statewide statistics indicate deer population exceeds 32 deer per square mile of forested habitat (GADNR, 2005). Deer and other wildlife could have an impact on the fecal loading. Wildlife are transient in nature so loading to the stream would be intermittent from each species, with the possible exception of feral hogs and beaver. Please see photograph 1. 0315010413 Etowah River, Lake Allatoona to Richland Creek: Hwy 41 North Bridge crossing- Wildlife access, birds seen nesting under bridge. Area along the tributary to Petit Creek is accessible to wildlife as well. Please see photograph 6. 0315010413 Tributary to Petit Creek, City of Cartersville: Jones Mill Road, banks accessible to wildlife

Agricultural Livestock: This segment of the Etowah River has several cattle and horse farms within the watershed drainage along Old Alabama Road. Livestock fecal runoff could have an impact on this segment of the Etowah River prior to the City of Cartersville WPCP outfall. Please see photograph 2. 0315010413 Etowah River, Lake Allatoona to Richland Creek: Hwy 293 North Bridge crossing- Pasture visible on left-hand side of river.

Septic Systems: Stakeholders, Bartow Environmental Health concurred that leaking or failing septic systems could be a source of fecal contamination. There is no requirement for maintaining systems or reporting leaks. Environmental Health can investigate a complaint; otherwise leaking or failing tanks are reported on a voluntary basis. In Bartow County, of a total of 22,361 total septic systems recorded, 8,747 systems were installed and 638 were repaired between 1990 and 2000 (EPD, 2004). Septic system installation is regulated through permits and inspections of on-site sewage management systems; plumbers and other maintenance operators are required to submit monthly logs of pump-outs and maintenance done to systems. Lot size and configuration were listed as problematic in installation and maintenance. Septic system maintenance was identified as a key area for education and outreach. Leaking or failing systems were not seen in the field survey.

Urban Runoff
The tributary to Petit Creek drains an urban residential and commercial area, much of which contains impervious road and parking lot surfaces as well as yards and greenspace. The area is accessible to wildlife and there is a possibility of leaking septic systems but the majority of contribution is thought to come from a point source discharge in 2001 as well as urban runoff. Please see photographs 3. 0315010413 Tributary to Petit Creek, City of Cartersville: Tennessee Street side road- Headwaters of tributary drains runoff from highway; 4. 0315010413 Tributary to Petit Creek, City of Cartersville: Jones Mill Rd., Railroad is high point for drainage for tributary; wildlife have access to stream; and 5. 0315010413 Tributary to Petit Creek, City of Cartersville: Felton Road, drains residential area.

Field Survey Notes (Please See Photographs in Appendix C)

Field Notes: #11 ETOWAH RIVER, Lake Allatoona to Richland Creek
Survey Team: Nancy Gribble
Date: June 17, 2005
Weather Conditions: Sunny, ~78 degrees F.

Stop #1: Cooper Furnace Road to Day Use Park; Bartow County
Cannot access Allatoona Dam due to restrictions on entering the area with heightened security. Began survey along the Day Use road. Good water flow, some white water seen, clear water, good tree buffer along both sides of the river. Several residential sites seen, some belonging to the Park Service. Along the river the Park provides sites for river viewing and picnicking. In the area, New Riverside Ochre is operating several pit mining locations for ochre.
The Dam was not releasing water; the hours for release were 4:45 to 6:30 P.M. that day.
Area easily accessible to waterfowl, deer, birds.
Birds seen nesting under the bridge.

Stop #2: Highway 41 North Bridge crossing, accessed from under the bridge
The river was still very flat, dark green in appearance. Tree buffers along both sides.
Photograph taken: 1. 0315010413 Etowah River, Lake Allatoona to Richland Creek: Hwy 41 North Bridge crossing- Wildlife access, birds seen nesting under bridge.

Stop#3: Highway 293 Bridge crossing.
The river had a dark green appearance, smooth, flat water surface, not much movement seen. One to two new homes seen in the area. The river is easily accessed by wildlife along the banks. Birds were seen.
Photograph taken: 2. 0315010413 Etowah River, Lake Allatoona to Richland Creek: Hwy 293 North Bridge crossing- Pasture visible on left-hand side of river.

Stop #4: Douthit Ferry Road crossing.
The river had a green to clear appearance, silt and sediment bars from along the banks, Southside-downstream houses along the river, most have river pavilions built. Subdivision is 2-3 years old. Upstream, north side has sod farming up to buffer along the river. Birds and waterfowl seen.

Stop #5: Hwy 113 Bridge, access on City of Cartersville Property (easement for discharge pipe to river from the WPCP. The water was clear to green in deeper areas. The City of Cartersville WPCP discharge is piped to the river and enters under the water through a diffuser to the river bottom. The area has industry on both sides. Despite the City's efforts to keep the area clear, the public has used the area to fish, and dump garbage and debris near the river. Birds were seen, along with deer tracks.

Stop #6: River from the dirt road alongside Euharlee Road
The area is used for fishing (sturgeon sign posted), dirt road runs 1/10th mile along river, sod farming along this stretch also. No houses along the south side of Euharlee Road.
The river had a green, murky appearance, good flow, looks like river had been up in height `5 to 6 feet with heavy rains and days the water is released fro generating at the Dam. Birds were seen, but animal tracks were in the area, along with humans fishing along the banks.

Field notes: # 12 Tributary to Pettit Creek, City of Cartersville
Survey Team: Nancy Gribble
Date: June 28, 2005
Weather Conditions: Partly cloudy to sunny, after night rains.

Stop # 1: North Tennessee Street, Hwy 411 cloverleaf
Visual observation, traffic flow too heavy to walk it. Tributary starts as drainage ditches from the traffic area. Area is asphalt roads and grass, weeds. City sewer crosses road, now spills or over flows in that area.

Stop # 2: Tributary to Pettit Creek at Felton Road
Tributary was out of its banks from the heavy rains in the last 48 hours, the water appearance was clear to cloudy in pools, some bank erosion; water drains impervious areas of parking lot and field.
Photographs taken: 5. 0315010413 Tributary to Petit Creek, City of Cartersville: Felton Road, drains residential area.

Stop # 3: Tributary at Jones Mill Road, culvert
Good flow after heavy rains, water appearance was clear to cloudy in pools, good bank vegetation, drains residential areas. Railroad tracks run through area and were the high point for the drainage.
Photographs taken: 4. 0315010413 Tributary to Petit Creek, City of Cartersville: Jones Mill Rd., Railroad is high point for drainage for tributary; and 6. 0315010413 Tributary to Petit Creek, City of Cartersville: Jones Mill Road, banks accessible to wildlife

Stop # 4: Tributary at Tennessee Street side road by The Crown Inn (Motel) Permit # GA0023540
Drainage area is the road cloverleaf by culverts to piping under the road and to ditches to the tributary. Lots of kudzu covering the area between the roads.
Photograph taken: 3. 0315010413 Tributary to Petit Creek, City of Cartersville: Tennessee Street side road- Headwaters of tributary drains runoff from highway.

DNR/EPD lists Crown Inn Permit # GA0023540 as having a NPDES Discharge to an unnamed tributary to Pettit Creek. The Cartersville Field Office of EPD, remembers the tributary having a flow backup that resulted in high fecal coliform counts around 2001, thus the segment was put on the 303(d) list.

To the extent possible, identify sources and quantify the extent of pollution in the stream segment for each of the parameters listed in Table 2 and evaluate the likely impact on the parameter load to the stream. This should follow research performed and described in preceding narrative and should correct or add information to the TMDLs. **The *SOURCES SHOULD BE RANKED*** from those having the most impact to those having the least impact. The estimated extent of contribution can be expressed as the area of the watershed affected, the stream miles affected, or the number of activities contributing to the problem. The magnitude of contribution should be estimated to be large, moderate, small, or negligible.

Table 3. CONCLUSIONS MADE OF POTENTIAL SOURCES OF STREAM SEGMENT IMPAIRMENT

Etowah River (Lake Allatoona to Richland Creek)

PARAMETER 1	POTENTIAL SOURCES	ESTIMATED EXTENT OF CONTRIBUTION	ESTIMATED MAGNITUDE OF CONTRIBUTION	COMMENTS
FC	Wildlife sources	Throughout	Moderate	Intermittent in nature
FC	Possible leaking or failing septic systems	From Lake Allatoona to city limits of Cartersville	Small to Moderate	No Known leaks; Stakeholders feel it is a problem
FC	Agriculture	Along Old Alabama Road; prior to the City of Cartersville WPCP outfall.	Small to Moderate	

Tributary to Pettit Creek (City of Cartersville)

PARAMETER 1	POTENTIAL SOURCES	ESTIMATED EXTENT OF CONTRIBUTION	ESTIMATED MAGNITUDE OF CONTRIBUTION	COMMENTS
Fecal Coliform Bacteria (FC)	NPDES permitted facility (Sand filter for Crown Inn)	Mid- stream segment	High in 2001	GA EPD District office has regulatory responsibility; Currently, no discharge. DNR/EPD lists Crown Inn as having a NPDES Discharge to an unnamed tributary to Pettit Creek. The Cartersville Field Office of EPD, remembers the tributary having a flow backup that resulted in high fecal coliform counts around 2001, thus the segment was put on the 303(d) list.
FC	Urban runoff	Throughout	Moderate	Area drains large amount of impervious surfaces
FC	Wildlife sources	Throughout	Moderate	
FC	Possible leaking or failing septic systems	Throughout	Small	No known leaks (Most households on City Sewer)

V. STAKEHOLDERS

PUBLIC INVOLVEMENT AND THE ACTIVE PARTICIPATION OF STAKEHOLDERS is essential to the process of preparing TMDL implementation plans and improving water quality. Stakeholders can provide valuable information and data regarding their community, impaired water bodies, potential causes of impairments, and management practices and activities which may be employed to reduce the impacts of the causes of impairment.
Describe outreach activities to advise and engage stakeholders in the TMDL implementation plan preparation process. Describe the stakeholder group employed or formed to address the impaired segments in the watershed. Summarize the results of the number of attendees and meetings and describe major findings, recommendations, and approvals.

Stakeholder Determination

Stakeholder lists were developed by reviewing lists of stakeholders contacted and involved in previous TMDL projects and in Source Water Assessment Projects done by the Coosa Valley RDC. Other stakeholders were added as they came forward or through word of mouth were introduced to the process. As well, other stakeholders were contacted and asked to participate, if they had not already been listed. Stakeholders were informed of the process and invited to participate, and to attend informational sessions, by mass mailings.

Stakeholder lists were developed by reviewing lists of stakeholders contacted and involved in previous TMDL projects and in Source Water Assessment Projects done by the Coosa Valley RDC. Other stakeholders were added as they came forward or through word of mouth were introduced to the process. As well, other stakeholders were contacted and asked to participate, if they had not already been listed. Stakeholders were informed of the process and invited to participate, and to attend informational sessions, by mass mailings. A workshop was held jointly with the North Georgia Regional Development Center on CLEAN WATER the TMDL Link, A Toolbox for Improving Water Quality. A series of informational meetings were held to inform communities of the TMDL process and to answer questions and address concerns. Groups such as the Georgia Poultry Federation and the New Echota River Alliance were also invited to participate in plan development or as advisory committee members.

The Coosa Valley Regional Development conducted several TMDL informational and stakeholder public meetings:

May 17, 2005 TMDL Stakeholder Meeting held at the Forum in Rome, Georgia for the streams in the Coosa Basin (27 attendees)

August 30, 2005 TMDL Stakeholder Meeting held at Red Top Mountain State Park and Lodge, Cartersville, Georgia for the streams in Bartow/Gordon/Paulding/Polk/Pickens County areas (20 attendees)

October 18, 2005 Fall Workshop-Northwest Georgia Regional Water Resources Partnership held in Dalton, Georgia. Workshop title: CLEAN WATER: The TMDL Link, A Toolbox for Improving Water Quality. Coosa Valley Regional Development Center & North Georgia Regional Development Center had two separate breakout sessions on the TMDL Implementation Plans for Stakeholder Interest (73 attendees)

December 7, 2005 Stakeholder Meeting held at the Calhoun Depot in Calhoun, Georgia for the Bartow, Gordon, Paulding, Polk and Pickens Counties (6 attendees).

Stakeholder Meeting for Bartow/Gordon/Paulding/Polk/Pickens Counties SubBasin Comments

Stakeholders had the following comments:

- Local governments do not have regulatory authority to control agriculture or septic processes.
- Georgia Poultry Federation sees the farmers and growers that are willing to be educated and implement BMPs.
- Bartow County farmers still allow cattle to get to streams to pollute.
- Septic systems are not generally regulated and the State of Georgia needs to be proactive and set regulations to control septic or agricultural sources. Are there any regulations where the owner who clears vegetation along a stream bank can be corrected?
- EPD should enforce their authority and not rely on local governments to do enforcement. Get the State to partner with local government. We do not understand why EPD lowered the buffer zone along streams. (*N. B.* EPD's response is, "The State of Georgia decreased the stream buffer requirements not the Georgia Environmental Protection Division.") The State of Pennsylvania requires on-site septic systems to be regulated.
- From jurisdiction to jurisdiction, we need to work together to understand how to implement the TMDL process.
- Speaking from the poultry-agricultural issues, getting farms to operate effectively and well managed will benefit local governments. Do not over regulate farmers.
- The need is great to get the TMDL information and assure accuracy. Cities and governments are regulated on accurate information.
- Make sure standards that are used to regulate streams are correctly identifies as to which ones actually impact human health.
- Can 319 grants are used? Can the money be funneled through the RDCs?
- We need to use a comprehensive approach to onsite septic systems where there are no sewer systems?
- How do we develop BMPs when the sources are not known?

Stakeholder advisory groups were formed from those stakeholders who indicated an interest in serving on the committee at the informational meetings, in interviews and in information gathering, as well as those who volunteered to be on the committee. Additional stakeholders were contacted directly and asked to be in the advisory groups. A cohesive mix of city and county leadership, water treatment operators, public works, code enforcement, engineers, environmental health, Keep Georgia Beautiful affiliates, environmental advocates, interested citizens and volunteers, NRCS agents, RC&D coordinators, extension service personnel, farmers, and other interested parties was sought as representatives of their particular viewpoints and areas of expertise.

Throughout the process input was gathered from individual stakeholders both as information to complete the plans and as insight into possible sources and causes of fecal coliform pollution, ideas on implementation activities, and obstacles to overcome in improving water quality. Of high concern was the reliability of initial data and the appropriateness of sampling sites and methods. Of concern as well was the feeling that individual concerns or facets were being singled out as a culprit in this process. Additionally stakeholders expressed the feelings that the same process had been repeated multiple times without efforts being made to continue the TMDL implementation. As these were legitimate concerns, care was taken to address them and to emphasize the nature of the current plans, to look at the watershed as a whole, to involve stakeholder groups in the entire effort, and to ultimately place the stakeholders in the drivers' seat for the future. The Sampling Quality Assurance Plan protocol for additional monitoring was also addressed for those groups interested in gathering additional data to verify initial results or to de-list the stream.

The Bartow County Stakeholder Advisory Group (BCSAG) was formed in January 2005 for the purpose of establishing and directing stream water quality monitoring and outreach efforts to address nonpoint source pollution. Stakeholders in this group, representing Bartow County, Cities of Cartersville and Euharlee, and government agencies, have worked together previously on watershed assessment and source water assessment plans as well as other environmental and water quality efforts.

This group met in January 2006 to review the draft TMDL Implementation Plans for watersheds in the county and to discuss monitoring and outreach efforts. Two subcommittees were formed: One to review stream monitoring data for these watersheds and to implement additional monitoring as needed; and the second to begin septic system maintenance outreach to homeowners.

Stakeholder Advisory Group Comments- January 31, 2006

Stakeholders introduced themselves; those present included Gene Camp, Bartow County Water Department, Pam Robinson, Bartow County Health Department, Steve Bradley, Bartow County Administrator, Lamont Kiser, Bartow County Engineer, Cindy Haygood, Rolling Hills RC&D, Curt Gervich, Etowah Habitat Conservation Plan, Edmund L. Mullinax, City of Cartersville, Kathy Floyd, Bartow County Extension Service, Katie Knowles and Jim Shinall, USACE, and Jim Stafford, City of Cartersville, and Bobby Gay, City of Euharlee Code Enforcement, were present.

Jill Joss and Julie Meadows, CVRDC, introduced the TMDL Implementation Plan process.

Jill Joss presented a summary of discussion from previous meetings including data, sampling, impairment sources, management measures, input, and concerns of local governments, agriculture, landowners and individuals.

Julie Meadows reviewed management measures in draft TMDL Implementation Plans (TMDLIPs) for Pine Log Creek (HUC-10 0315010207); Oothkalooga Creek (HUC-10 0315010302); Pumpkinvine Creek (HUC-10 0315010411); Raccoon Creek (HUC-10 0315010412); Etowah River (HUC-10 0315010413); Euharlee Creek (HUC-10 0315010414); Etowah River/Two Run Creek (HUC-10 0315010415); and Silver Creek (HUC-10 0315010416).

Stakeholders suggested comments and additions to the management measures as follows:

Stakeholders asked that the Etowah Habitat Conservation Plan language be included in management measures with applicable ordinances for participating jurisdictions. Suggested that sewer expansion might not be the way to go, suggesting improvements to septic systems instead.

It was stated that the Poultry Waste Management Program district does not extend to Bartow County, and asked that the Continuous Conservation Reserve Program be included as it includes measures such as fencing livestock out of streams and provides up to a 90-10% cost-share, as well as the Conservation Reserve Program which includes erosion control measures.

It was stated that the County's new Notice of Intent had been approved by the EPD and over 30 BMPs for stormwater management should be included. It was clarified that land disturbing permits are obtained through the County.

It was clarified that the Greenspace Committee has purchased several greenspace lots and recommended that those acquisitions be included, as well as striking percentages from language that described Committee efforts. Negotiations are ongoing for further greenspace.

Sewer systems were discussed further: Lot size and configuration were listed as problematic, encouragement of dense enough development to warrant water and sewer was mentioned.

It was stated that Bartow County had been the first to implement a DVD education outreach program for new septic system owners in 2004 and it was now statewide. The Health Department can only check systems if there are complaints, which are sometimes received from landowners or from surveys done by the COE at Lake Allatoona. New regulations for septic system installation recently introduced.

How to get the information out to those getting new permits? A possibility might include getting the word out through water utilities, sending out information to those not on sewer.

It was stated that there is no mandatory update or management of septic systems; that there should be additional public education.

Suggestions were made that the State be more proactive to establish regulations for septic systems at the State level. Education on maintenance of systems is key. Resale of homes with septic systems is also an issue.

Sheri Henshaw, director of Keep Bartow Beautiful, was unable to be present but had sent information about outreach programs that Keep Bartow Beautiful is coordinating. These programs are detailed in the outreach section of the TMDL Implementation Plans for watersheds in Bartow County and include the following projects: Etowah River Cleanup; Environmental education including Teacher Training for Waste In Place, Project WET (Water Education for Teachers); Enviroscape (illustrates non-point source pollution in the classroom using tabletop model); Stormwater education in schools; Development of a speaker's bureau to present stormwater issues to civic groups; and Adopt-A-Stream. Proposed projects include a homeowner's workshop on maintaining septic tanks, including the topics "Different Functions of Septic Tanks; How They Should Function; Common Causes of Failure; Maintenance For Longevity; Potential Contaminants in the Effluent; and Site Limitations"; a workshop on rain gardens for stormwater catchment, and cooperative development of a demonstration rain garden at Red Top Mountain State Park with signage.

A grant program was mentioned in rural Kentucky through PRIDE (Personal Responsibility in a Desirable Environment) for low-income homeowners to connect to existing sewer or install a permitted septic system; a possibility of a similar pilot project in this area.

Sampling was discussed. Previous and current sampling sites (EPD, USGS) were reviewed. Future or ongoing sampling was discussed especially for the tributary to Petit Creek segment and the Euharlee. Previous sampling data for all watersheds were requested for further study.

It was remarked that errors in data may have caused pristine streams may have been listed in error.

Funding sources were discussed by all. Information on EPD's 319 h grant requirements for 2006-2007 will be announced in early February and relayed to stakeholders.

The Northwest Georgia Water Resources Partnership was introduced for regional water planning purposes.

A subcommittee was formed to review sampling data, including:

- Steve Bradley, Bartow County Administrator
- Ed Mullinax, City of Cartersville
- Gene Camp, Bartow County Water Department
- Sheri Henshaw, Keep Bartow Beautiful
- Katie Knowles, USCOE Allatoona Dam
- Jill Joss, Coosa Valley RDC

A subcommittee was formed to plan septic system outreach, including:

- Gene Camp, Bartow County Water Department
- Bobby Gay, City of Euharlee Zoning and Code Enforcement
- Pam Robinson, Bartow County Environmental Health
- Kathy Floyd, Bartow County Extension Service
- Cindy Haygood, Rolling Hills RC&D
- Jim Shinall and Katie Knowles, USCOE Allatoona Dam
- Julie Meadows, Coosa Valley RDC

The meeting was adjourned.

Amended February 2, 2006.

List the watershed or advisory committee members of the stakeholder group for this segment in the following table.

Table 4. COMMITTEE MEMBERS

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Steve Bradley County Administrator	135 West Cherokee Avenue Suite 241	Cartersville	GA	30120	(770) 387-5030	Bradleys@bartowga.org
Lamont Kiser Bartow County Engineer	135 West Cherokee Avenue Suite 241	Cartersville	GA	30120	(770) 387-5067	kiserl@bartowga.org
Sherri Henshaw Coordinator, Keep Bartow Beautiful	P.O. Box786	Cartersville	GA	30120	(770) 387-5167 Fax: 770.606.2382	henshaws@bartowga.org
Bobby Gay Zoning and Code Enforcement Officer	30 Burge's Mill Road	Euharlee	GA	30145	(770) 386-1542 ext 210	code@euharlee.com
Edmund L. Mullinax, City of Cartersville	P.O. Box 1390	Cartersville	GA	30120	(770) 607-6296	emullinax@cityofcartersville.org
Gene Camp Bartow County Water System	P.O. Box 850	Cartersville	GA	30120	(770) 387-5170	campg@bartowga.org
Kenneth M. Akins Etowah Indian Mounds Site Manager	813 Etowah Indian Mound Road, S.E.	Cartersville	GA	30120	(770) 387-3747	Etowah_mounds@dnr.state.ga.us
Jim Stafford City of Cartersville Water Department	P.O. Box 1390	Cartersville	GA	30120	(770) 387-5653	jstafford@cityofcartersville.org
Kathy Floyd County Extension Agent	320 W. Cherokee Ave. Room 112	Cartersville	GA	30120	(770) 387- 5142	Kpfloyd@uga.edu
Katie Knowles USACE Allatoona Dam Natural Resources Spec.	P.O. Box 487	Cartersville	GA	30120	(678) 721-6738	Kathrine.m.Knowles@sam.usace.army.mil
Jim Shinall USACE Allatoona Dam Environmental Compliance Coordinator	P.O. Box 487	Cartersville	GA	30120	(678) 721-6716	James.t.shinall@sam.usace.army.mil
Machelle Simmons, USDA Natural Resource Conservation Service	717 South Wall Street, Suite 1	Calhoun	GA	30701	(706) 629-2582 X 3	Machelle.simmons@ga.usda.gov
Pam Robinson, Environmental Health	P.O. Box 665	Cartersville	GA	30120	(770) 387-2614	pjrobinson@dhr.state.ga.us

Director						
Keith Gilmer Georgia Soil and Water Conservation Commission	700 East 2nd Ave. Suite J	Rome	GA	30161	(706) 295-6131	K_gilmer@gaswcc.org
John Loughridge Georgia Soil and Water Conservation Commission	700 East 2nd Ave. Suite J	Rome	GA	30161	(706) 295-6131	J_loughridge@gaswcc.org
Curt Gervich Etowah Habitat Conservation Program	P.O. Box 287	Acworth	GA	30503	(678) 801-4013	curt@etowahhcp.org
Joe Cook Executive Director, or Katie Owens Program Coordinator Coosa River Basin Initiative	408 Broad St.	Rome	GA	30161	(706) 767-0497	crbi@coosa.org keady@coosa.org
Cindy Haygood Rolling Hills Regional Conservation and Development Council	P.O. Box 1550	Dallas	GA	30132	(770) 505-4288	Cindy.Haygood@ga.usda.gov

In Appendix A, list the names, addresses, telephone numbers, and e-mail addresses for local governments, agricultural or commercial forestry organizations, significant landholders, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

VI. MANAGEMENT MEASURES AND ACTIVITIES

Describe any management measures or activities that have been put into place or will be put into place including regulatory or voluntary actions or other controls by governments or individuals that specifically apply to the pollutant that will help achieve water quality standards. Include who will be responsible for the measure, how it will be funded, the status, the date it will be or was initiated, and a short description of how effective the measure is or will be.

Table 5. MANAGEMENT MEASURES AND ACTIVITIES

MEASURES APPLICABLE TO FECAL COLIFORM

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/ IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
Federal Clean Water Act, Section 305(b) and 303 (d) Amended 1977	USEPA, Georgia DNR EPD, Bartow County,	The congressional objective of the Clean Water Act "is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 305 (the *National Water Quality Inventory*) requires states to report progress in restoring impaired waters to EPA on a Biennial basis. Section 303(d) requires states to identify 'impaired' waters, submit a list to EPA every two years, and develop TMDLs for these waters	Federal, Georgia	Enforced	1972; amended 1977	
Georgia Water Quality Control Act (OCGA 12-5-20)	Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6	Law prohibiting discharge of excessive pollutants (sediments, nutrients, pesticides, animal wastes, etc.) into waters of the State in amounts harmful to public health, safety, or welfare, or to animals, birds, or aquatic life or the physical destruction of stream habitats. Law authorizing Georgia EPD to control water pollution, eliminate phosphate detergents, and regulate sludge disposal; to require permits for agricultural ground and surface water withdrawals; to prohibit situation of state waters by land disturbing activities and require undisturbed buffers along state waters; to require land-use plans that include controls to protect drinking water supply sources and wetlands; to require river basin management plans on a rotation schedule for all major river basins.	Federal, Georgia, Bartow County	Enforced	11/1964	
GA Growth Planning Act (OCGA 12-2-8)	GA DNR, Department of Community Affairs, and local units of government.	Authorized GA DNR to develop minimum planning standards and procedures that local jurisdictions could adopt and enforce pertaining to the protection of river corridors, mountaintops, water supply, watersheds/reservoirs, groundwater recharge areas, and wetlands. Silviculture may be exempted from permitting requirements provided activity complies w/BMPs.	State			
Georgia Planning Act. Part V	Bartow County, City of Cartersville	Wetland protection, river corridor protection, etc. Minimum criteria. Requires 100' buffer on protected	General Fund	Enforced	1989	

Environmental planning measures. GA DNR EPD Rules for Environmental Planning Criteria (Ch. 391-3-16)		rivers. Water supply watershed protection also requires 100' stream buffers.				
Georgia Erosion and Sedimentation Control Act, Construction Permit, 2003 Amendment	Bartow County, City of Cartersville, Georgia DNR/ EPD, Georgia Soil and Water Conservation Commission	Municipalities certified as Local Issuing Authority for land-disturbing activities. Requires Erosion and Sedimentation Control Plan incorporating best management practices plus "Qualified Personnel" Training and Certification Program adopted from Georgia Soil and Water Conservation Commission. Certification of on-site "Qualified Personnel" to ensure proper design, construction, and maintenance of standard E & S control measures and storm water management practices.	Bartow County, City of Cartersville	Enforced	2003	
Georgia Erosion and Sedimentation Control Act (OCGA 12-71-1)	Bartow County, Georgia DNR/ EPD, Georgia Soil and Water Conservation Commission	Restricts activity within 50 feet of streams that support or could support trout, and 25 feet of all other streams and lakes. This includes intermittent streams, which do not run year-round, as well as perennial streams	Bartow County, Georgia DNR/ EPD	Enforced	2003; EPD rule revised 1/2005	
GA Growth Planning Act (OCGA 12-2-8)	GA DNR, Department of Community Affairs, Bartow County	Authorized GA DNR to develop minimum planning standards and procedures that local jurisdictions could adopt and enforce pertaining to the protection of river corridors, mountaintops, water supply, watersheds/reservoirs, groundwater recharge areas, and wetlands. Silvicultural activities may be exempted form permitting requirements provided the activity complies with BMPs.	State			
Erosion and Sedimentation Control Training and Certification	Georgia Soil and Water Conservation Commission, GA EPD, Rolling Hills RC&D, Bartow County	House Bill 285 requires state certification in Erosion and Sedimentation Control for anyone involved in the following activities: land development, design, review, permitting, construction, monitoring, inspection, or any land-disturbing activity in Georgia (Georgia Soil and Water Conservation Commission, 2005). The GSWCC also has updated requirements for E&SC plans to be submitted with each project. Three levels of certification are offered through the Rolling Hills Regional Conservation and Development Council (RC & D) and Chattahoochee Technical College. Bartow has held class also, level 1A.	Georgia Soil and Water Conservation Commission, GA EPD, Bartow County	Enforced	Certification by end of 2006; One class held in Bartow County 12/05	Very
Etowah Habitat Conservation Plan Standard Operating Procedure (SOP) for	US Fish and Wildlife Service, Bartow County	SOP includes six elements: 1. Two required preconstruction meetings- one, an early meeting with the site planner and relevant E&S professionals to identify problem areas before site plans are Finalized, and two, a subsequent meeting with the utilities, engineers, developer, E&S installation crew, and owner to review	Bartow County, City of Cartersville	In review		

Erosion and Sedimentation Control		where and how E&S control measures will be installed; 2. Semi-monthly reporting requirements; 3. A bonding program; 4. A minimum inspection frequency requirement; 5. A brief E&S checklist for building inspectors; and 6. Designation of emergency on-call E&S personnel from each development. Requires updates to ordinances in participating jurisdictions.				
Construction Storm Water Discharge NPDES Permit	Georgia DNR/ EPD	General storm water permit for stand-alone construction sites; infrastructure permits; and common developments. Requires implementation of Erosion, Sedimentation and Pollution Control Plan plus monitoring of discharge for compliance with Georgia's in-stream water quality standards.	State	Enforced		
Industrial Storm Water Discharge NPDES Permit	Georgia DNR/ EPD	General storm water discharge permit for manufacturing facilities; mining, oil, and gas operations; hazardous waste treatment; storage or disposal facilities; recycling centers; steam electric power generating facilities; transportation facilities; domestic sewage or sewage treatment. Requires implementation of Storm Water Pollution Prevention Program. May require storm water monitoring program targeting discharges into/near 303 (d) listed waters.	State	Enforced		
Notice of Intent coverage of small MS4 under NPDES Phase II general permit	Bartow County	NOI approved by EPD in 2005. Includes Best Management Practices to reduce non-point source pollution in the county. NOI approved in 2005.	Bartow County	Enforced	2005	Very
Phase II NPDES Storm Water Permit for Small MS4	Georgia DNR & EPD, Bartow County	Bartow NOI Approved in 2005. Requires local jurisdictions to develop a comprehensive Storm Water Management Program (SWMP) to include 1. Public Education and Outreach; 2. Public Participation and Involvement; 3. Illicit Discharge Detection and Elimination; 4. Construction Site Storm Water Runoff Control; 5. Post-Construction Storm Water Management in New Development and Redevelopment; 6. Pollution Prevention and Good Housekeeping related to municipal operations, reporting, and monitoring and program implementation. Bartow County is in process of implementing these best management practices.	Bartow County	Enforced	2005	
Watershed Assessment and Protection Plan for Phase II NPDES Permitting	Bartow County	Required for new or expanding wastewater treatment discharge permits. Internal assessment of storm water pollution prevention plan (map of facilities and responsibilities for upkeep): Reference TMDL implementation plans (TMDLIP) and water quality strategies for non-point source pollution elimination. Drives local land use planning. Georgia EPD guidelines include Management Measures Specific for 303(d) listed	Bartow County	Enforced	2005	

		stream segments in the impacted watershed. WPP to reference TMDLIP already developed. Where no TMDLIP developed, WPP to outline management/ monitoring measures targeting listing violations; identify authority responsible for implementing the above management/ monitoring measures; indicate possible funding sources; establish current status and/or date measures will be initiates, and expected effectiveness; and design educational and outreach activities for intended audiences.				
Storm drain stenciling requirement	Bartow County	County ordinance requiring stenciling of storm drains by developers for new housing developments.		Enforced	2004	
Storm drain stenciling	Keep Bartow Beautiful	Volunteers stencil storm water drains in older residential developments		Voluntary	2004	
Sanitary Sewer Maintenance Program	Bartow County	Sanitary Sewer system inventory and inspection (mapping, television inspections); infiltration and inflow identification and reduction (flow monitoring, smoke testing); sewer line rehabilitation (pipe bursting, relining, cleaning) and manhole rehabilitation.	Bartow County	Enforced	Ongoing	
District-wide Watershed Management Plan	Georgia DNR/EPD, Metropolitan North Georgia Water Planning District (SB 130), Bartow County, Cartersville	Bartow has adopted five of six Model Storm Water Management Ordinances that address Post Development Storm Water Management for New Development and Redevelopment, Conservation Subdivision/ Open Space Development, Illicit Discharge and Illegal Connection, Litter Control, and Stream Buffer Protection as required by Georgia EPD in MS4 Phase II Permit Renewals. The District Plan also addresses municipal good housekeeping practices to control non-point source pollution; improved enforcement of erosion and sedimentation control; storm water management for transportation projects; and education and public awareness activities.	Bartow County, Cartersville	Enforced	Bartow, 12/2005	
Watershed Protection Tools Addressing Poor Riparian Buffers	Bartow County and stakeholders	Riparian Buffer Ordinance (Stream Buffer Protection Ordinance of 50'); Stream Restoration; Stream Mitigation Bank; Conservation Subdivision Ordinance	Bartow County	Enforced	Compliant with or exceeds Metro N. GA District model ord. 12/07/05	Very if enforced
Watershed Protection Tools Addressing Point Sources	Bartow County and stakeholders	Improved NPDES permits; Enforcement of existing permits	Bartow County	Enforced	Compliant with or exceeds Metro N. GA District model ord. 12/07/05	Very if enforced

Watershed Protection Tools Addressing Impervious Surfaces and Storm Water Runoff	Bartow County and stakeholders	Relevant Storm water Management and Conservation Subdivision Ordinances; Conservation Planning	Bartow County	Enforced	Compliant with or exceeds Metro N. GA District model ord. 12/07/05	Very if enforced
County Municipal Ordinance	Bartow County/ Code Enforcement Office	Post-Development Stormwater Management Ordinance with stream buffer limits; Litter Control Ordinance; Conservation Subdivision ordinance; Riparian Buffer ordinance; Greenspace Ordinance	General fund	On-going	January 2005	Very
Federal Endangered Species Act of 1973	Department of the Interior, US Fish and Wildlife Service	Provides a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve those purposes	USFWS	Enforced	1973	Very if enforced
Etowah Habitat Conservation Plan Stormwater Ordinance with Better Site Design Guidelines and Addendum: Runoff Limits, Priority Area Protection and Maintenance of Stormwater Facilities	US Fish and Wildlife Service, Bartow County, City of Cartersville	Additions to Metropolitan North Georgia Water Planning District Model Storm Water Management Ordinance addressing impervious surface runoff including 1. Clarification of bond and fee requirements; 2. Strengthening maintenance and inspection requirements, 3. Encouraging the use of Better Site Design credits, with additional performance standards for high priority habitat areas including section five, Model Runoff Limits Ordinance. This establishes requirements for runoff infiltration system installation and maintenance. Development of Runoff Limits Manual in progress (2006) Engineering Specifications for Structural BMPs. Requires updates to ordinances in participating jurisdictions.	Bartow County, City of Cartersville	Enforced	Compliant with or exceeds Metro N. GA District SW ord. 12/07/05	
Etowah Habitat Conservation Plan Stream Buffer Ordinance	US Fish and Wildlife Service, Bartow County, City of Cartersville	For those jurisdictions in the Metropolitan North Georgia Water Planning District, Additions are made to the district's Model Stream Buffer Ordinance addressing granting of variances. Requires updates to ordinances in participating jurisdictions.	Bartow County, City of Cartersville	Proposed	Compliant with or exceeds Metro N. GA District model ord. 12/07/05	
Etowah Habitat Conservation Plan Conservation Subdivision Ordinance	US Fish and Wildlife Service, Bartow County, City of Cartersville	For those jurisdictions in the Metropolitan North Georgia Water Planning District, changes made to the district's Model Conservation Subdivision Ordinance include requirement of site map analysis for all developments with open space plans, instruments of permanent protection, and a four-step design process specified; and changes to primary conservation sites to be included in open space requirements including 100-year floodplain,	Bartow County, City of Cartersville		Compliant with or exceeds Metro N. GA District model ord. 12/07/05	

		75-foot stream buffers, 25%-or-greater slopes, wetlands, endangered species habitats, and archeological sites. Requires updates to ordinances in participating jurisdictions. Places emphasis on protecting stream buffers and significant hydrological features..				
Etowah Habitat Conservation Plan Conservation Road Crossing and Culvert Design Guidelines	US Fish and Wildlife Service, Bartow County, City of Cartersville	Road Crossings Technical Committee is in the process of developing design guidelines for road crossings of stream and stream culverts to alleviate habitat concerns that pipe culverts limit fish movement in stream	Bartow County, City of Cartersville		In committee	
Etowah Habitat Conservation Plan Conservation Utility Line Crossing and Construction Recommendations	US Fish and Wildlife Service, Bartow County, City of Cartersville	Utility Crossings Technical Committee is in the process of developing design guidelines for utility stream crossings to reduce sedimentation and other habitat concerns resulting from erosion of land disturbed by utility activities	Bartow County, City of Cartersville		In committee	
EPA Section 319 Non-point Source Implementation Grants	Georgia Department of Agriculture/ Georgia Environmental Protection Division for enforcement action	Funds distributed through a competitive process to public agencies, regional development centers, state colleges and universities, and state agencies.	Federal, State		Yearly	Varies with BMP or project
Georgia Best Management Practices	Georgia DNR/EPD	Informs those involved in the agriculture business of effective practices to minimize non-point sources of pollution	Georgia			Varies with BMP
Georgia's Best Management Practices	Georgia Forestry Commission (matters involving enforcement are generally referred to GA EPD)	GFC program to inform landowners, foresters, timber buyers, loggers site preparation and reforestation contractors and others involved with silvicultural operations about commonsense, economical effective practices to minimize nonpoint source and thermal pollution. GFC encourages and monitors compliance and conducts a complaint resolution program.				>75% when properly applied to site preparation and harvesting activities.
Georgia Forestry Commission Monthly BMP Assurance Examination	Georgia Forestry Commission (matters involving enforcement are generally referred to GA EPD)	In an effort to document "reasonable assurance" that water quality will be proactively protected during regular ongoing silvicultural operations, the GCF will offer a monthly BMP assurance examination of active sites. All active of ongoing sites will be identified either through monthly air patrol flights, courthouse records, riding the roads, notification or by landowners. Sites located within watersheds of specific biota (sediment) impaired streams will be given a higher priority to identify and conduct examinations.	Federal and State			
Memo to the Field: Application of BMPs to mechanical	EPA/ US Army Corps of Engineers - (cases normally referred to GFC to make initial	Identifies certain bottomland hardwood wetlands that should be subject to permitting if converting to pine plantations.	State			

silvicultural site preparation activities for the establishment of pine plantations in the Southeast (Silviculture)	determination)					
Federal Farm Bill (Swampbuster, Ag)	US Department of Agriculture Natural Resource Conservation Service	Prohibits landowners participating in federal price support programs from converting forested wetlands to agriculture	Federal			
Partners for Fish and Wildlife	US Fish and Wildlife Services	This is a proactive, voluntary program that works with private landowners to restore fish and wildlife habitats on their land. The projects have several different focuses, but for the purpose of water quality the projects focus on stream and riparian restoration and restoration of rare species habitat.	Federal variable cost share			Effectiveness will vary with the specific application and must be individually determined.
Farm Bill 2002	United States Department of Agriculture / National Resources Conservation Services	Enhances long-term quality of our environment and conservation of our natural resources. This bill provides several opportunities for receiving grants to improve water quality.	Federal Cost-Share and Incentive Programs.			Effectiveness will vary with the specific application and must be individually determined.
Environmental Quality Incentives Program (EQIP)	Natural Resources Conservation Services	Voluntary program that provides technical and cost share assistance for protection of ground and surface water, erosion control, air quality, wildlife habitat, and plant health.	Federal 50% cost share with possible additional incentive payments			Effectiveness will vary with the specific application and must be individually determined.
Special Forestry/Wildlife Environmental Quality Incentives Program (EQIP)	Natural Resources Conservation Services	Special funds allocated out of the EQIP program that will address forest road erosion/water quality, plant health, and wildlife habitat. This program has a separate ranking for rewarding money from the regular EQIP program.	Federal 50% cost share with possible additional incentive payments			Effectiveness will vary with the specific application and must be individually determined.
Wildlife Habitat Incentives Program (WHIP)	Natural Resources Conservation Services	Provides technical and cost share assistance for the creation of high quality wildlife habitat. Habitats of special concern include riparian areas and endangered and threatened species habitat.	Federal 75% of cost of the installation of practice provided			Effectiveness will vary with the specific application and must be individually determined.
Wetlands Reserve Program (WRP)	Natural Resources Conservation Services	Provides technical and financial assistance to landowners to enhance degraded wetlands degraded by farming or draining. There are three options with WRP to receive funds that have differing time agreements and easements resulting in different cost share. In all programs participants control access to the land, may	Federal (Farm Bill 2002) Cost Share 1. Permanent Easement :Pays			Effectiveness will vary with the specific application and must be individually determined.

		lease or use land for hunting, fishing, and other passive recreational activities. Compatible uses are allowed as long as the do not degrade the wetland.	appraised value of land ($2,000/ acre cap) and 100% of costs of restoration. 2. 30-Year Easement: Pays 75% of appraised value of land and 75% of restoration costs. 3. Restoration Cost Share Agreement: Pays 75% of restoration costs, no easement on the property.			
Chapter 40-13-8 Animal Manure Handlers Rules of Georgia Department of Agriculture Animal Industry Division	Georgia Department of Agriculture	This requires that persons engaged in removing animal manure from livestock/poultry production areas, transporting animal manure on public roadways, or depositing animal manure to a premise other than its point of origin obtain a permit and follow rules to control animal disease, and outlines regulations for transportation, equipment and storage.	State			Effectiveness will vary with the specific application and must be individually determined.
Farm Bill 2002 Forestland Enhancement Program	Georgia Forestry Commission	The Forestry Commission has implemented best management practices on its lands to reduce sedimentation and erosion from silviculture practices. The Georgia Forestry Commission also provides education, technical and financial assistance through cost-share programs to private landowners especially in the Forestland Enhancement Program, a part of the 2002 Farm Bill.	Federal, State		Ongoing	Very
Federal Farm Bill 2002	United States Department of Agriculture/ Natural Resources Conservation Service	Enhances long-term quality of our environment and conservation of our natural resources. This bill provides several opportunities for receiving grants to improve water quality.	Federal Cost-Share and Incentive Programs		2002	Varies with BMP applied.
Federal Farm Bill (Swampbuster Ag)	United States Department of Agriculture / National Resources Conservation Services	Prohibits landowners participating in federal price support programs from converting forested wetlands to agriculture.	Federal			

Conservation Reserve Program (CRP)	Natural Resources Conservation Services / USDA Farm Services Agency	Provides technical assistance, rental payments and cost share funding to address specific natural resource concerns including: protection if ground and surface waters, soil erosion and wildlife habitat. Eligible practices include tree planting, grassed waterways, wildlife habitat buffers, and shallow water area for wildlife and filter strips.	Federal, State, landowner	Cost-share	Ongoing	Varies
Continuous Conservation Reserve Program (CCRP)	Natural Resources Conservation Service	Conservation cost-share for best management practices such as fencing livestock out of streams; provides up to a 90-10% cost-share	Federal Annual rental payment for land taken out of production and 50% cost share for practice installation.	Cost-share	Ongoing	Varies with BMP applied.
Conservation of Private Grazing Land Program	United States Department of Agriculture / National Resources Conservation Services	This technical assistance will offer opportunities for: better grazing land management; projects for improving water quality include: protecting soil from erosive wind and water; conserving water; providing habitat for wildlife; sustaining forage and grazing plants.	Federal (Farm Bill 2002) This is not a Cost-Share Program.			Varies with BMP applied.
Conservation Security Program (CSP)	Natural Resources Conservation Services	This is the first program that rewards farmers and ranchers for high levels of environmental stewardship. Producers on cropland, orchards, vineyards, pasture and range may apply for CSP regardless of size, type of operation, or crops produced. Land in other cost share programs is not eligible. CSP will first be offered in watersheds with greatest potential for improving water quality, soil quality and grazing land condition, In 2005, the four watersheds of focus will be the Ichawaynochaway, Kinchagoonee-Muckalee, Middle Flint, and Upper Ochlockonee. An enhancement example is to install a riparian buffer,	Federal (Farm Bill 2002) Cost Share There is three tiers of involvement, which result in different expectations and cost share opportunities.			Effectiveness will vary with the specific application and must be individually determined.
Georgia Best Management Practices	Georgia Department of Agriculture / EPD	Informs those involved in the agricultural business of effective practices to minimize nonpoint source pollution.	State			Varies with BMP applied.
Section 319(h) Nonpoint Source Implementation Grant	Georgia Environmental Protection Division	Funds distributed through a competitive process to public agencies, regional development centers, State colleges and universities, and State agencies. Eligible projects include TMDL or Watershed Management Plan Implementation, BMP Demonstrations, and Information and Education.	Federal and State Cost Share Program. Recipient must provide 40% match.			Effectiveness will vary with the specific application and must be individually determined.
Environmental Quality Incentives Program (EQIP)	Natural Resources Conservation Services	Voluntary Program that provides technical and cost-share assistance for protection of ground and surface water, erosion control, air quality, wildlife habitat, and plant health	Federal (Farm Bill 2002) 50% Cost share with possible			

			additional payments			
Rules and regulations for onsite wastewater management (Septic system permitting)	Bartow County Department of Public Health	Regulates through permits and inspections of on-site sewage management systems; requires plumbers and other maintenance operators to submit monthly logs of pump-outs and maintenance done to systems	Bartow County	Enforced	Ongoing	
Pollution Prevention Litter Removal	Bartow County Solid Waste Director	Remove litter from County roads and properties using labor from State correctional facilities	General Fund	Ongoing	January 2004	Very
Pollution Prevention Good Housekeeping for Municipal Operations	Bartow County	Insure all County facilities submit an NOI for industrial discharges; Assist each facility with development of a Storm Water Pollution Prevention Plan (SWPP); Educate and inspect those facilities	General Fund	Ongoing	December 2004	Very
Volunteer clean up activities	Sherri Henshaw Coordinator, Keep Bartow Beautiful	Volunteers for stream cleanup on River Cleanup Day. Trash cleanup on the Etowah River for this segment at Riverside Park	General Fund		October 31, 2005	Very
Education and river clean up	DNR, Ken Akins Site Manager Etowah Indian Mounds	Education on historical water quality, river uses, clean-up of Etowah River as part of tour of Etowah Indian Mounds	State	Yearly		Very
Stormwater Best Management Practices	Bartow County	Continue to implement recommended Best Management Practices to address Biota (Sediment)/ Habitat and other pollutants as detailed in Bartow County's NOI Phase II MS4 Stormwater Management Plan to include 1. Public Education and Outreach; 2. Public Participation and Involvement; 3. Illicit Discharge Detection and Elimination; 4. Construction Site Storm Water Runoff Control; 5. Post-Construction Storm Water Management in New Development and Redevelopment; 6. Pollution Prevention and Good Housekeeping related to municipal operations, reporting, monitoring and program implementation	General Fund	Recommended 2006		May vary
Stream Buffer Installation and Maintenance Incentives	Bartow County	Explore incentives for developers (such as density variances) who meet or exceed stream buffer requirements in developments who agree to maintain buffers for specified period; similar incentives for homeowners		Recommended 2006		May vary
District-wide Septic System Maintenance	Bartow County Environmental Health, Northwest Georgia Health District	Expand ongoing education and outreach to promote proper maintenance of private septic systems using DVD program	Homeowners with existing septic systems	Recommended 2006		
Adopt-A-Stream	In conjunction with Coosa River Basin Initiative (CRBI)	Water quality chemical and biological volunteer training and monitoring, stream clean-up, stream bank and habitat restoration, and visual stream surveys	Volunteer	Ongoing		Moderate- Cannot test for fecal coliform

VII. MONITORING PLAN

The purposes of monitoring are to obtain more data, to determine the sources of pollution, to describe baseline conditions, and to evaluate the effects of management and activities on water quality. Describe any sampling activities or other surveys - active, planned or proposed - and their intended purpose. Reference the development and submission of a Sample Quality and Assurance Plan (SQAP) if monitoring for delisting purposes.

Table 6. MONITORING PLAN

PARAMETER (S) TO BE MONITORED	ORGANIZATION	STATUS (CURRENT, PROPOSED, PLANNED)	TIME FRAME START	END	PURPOSE (If for delisting, date of SQAP submission)
Fecal Coliform	EPD, USGS	Current	2005- 2006		Ongoing monitoring for listing, delisting of impaired streams on five-year cycle
Watershed temperature data, Continuous water quality monitoring, Water quality sampling, Chlorophyll *a* sampling, Wastewater treatment facility sampling (BOD, DO, Temp, TKN, NH_3, NO_2- NO_3, total P, ortho-phosphate, TOC, conductivity, and Ph), Basin-wide phosphorus, and Specialized studies	EPD, USGS	Current	2005-2006		Coosa River Basin Modeling study
Fecal Coliform	City of Cartersville	Current	July 2005	July 2006	Monitoring discharge for FC bacteria as result of reported overflow from Cartersville Biosolids WPCP
Fecal Coliform	EPD	Current	Ongoing		Monitoring for bacteria in permitted discharge from sand filter at the **Crown Inn** (located on Tennessee Street) to the tributary to Pettit Creek. No current discharge.
Fecal Coliform	Bartow County	Current	Ongoing		Inclusion of TMDL impairments in Bartow County's Long-Term Monitoring Plan

VIII. PLANNED OUTREACH FOR IMPLEMENTATION

List and describe outreach activities which will be conducted to support this plan and the implementation of it.

Table 7. PLANNED OUTREACH

RESPONSIBILTY	DESCRIPTION	AUDIENCE	DATE
Sherri Henshaw Coordinator, Keep Bartow Beautiful	Volunteers for stream cleanup on River Cleanup Day. Trash cleanup on the Etowah River for this segment at Riverside Park. Riverside Festival.	Volunteers, teenagers from local schools, Keep Bartow Beautiful, Bartow 4-H Club, Mountain District EPD office, Lake Allatoona Corps of Engineers	October 31, 2005
Provide septic system maintenance outreach to Bartow County residents	Bartow County Septic System Outreach Subcommitttee	Proposed 1/31/06	
Sherri Henshaw Coordinator, Keep Bartow Beautiful	Volunteer storm drain stenciling	Community	Ongoing
Ken Akins Site Manager Etowah Indian Mounds	Education on historical water quality, river uses, clean-up of Etowah River as part of tour of Etowah Indian Mounds	Approximately 17,000 students per year from area schools	Ongoing, mostly in fall and spring school terms
Bartow Co. Director of Planning and Zoning	Comprehensive stormwater awareness training program	Bartow County Homeowner's Association	Ongoing since July 2004
Sherri Henshaw Coordinator, Keep Bartow Beautiful	Teacher Training for Waste In Place, Project WET (Water Education for Teachers "to facilitate and promote awareness, appreciation, knowledge, and stewardship of water resources," Enviroscape (illustrates non-point source pollution in the classroom using tabletop model)	Teachers, students in grades K-12	Ongoing
Sherri Henshaw Coordinator, Keep Bartow Beautiful	Stormwater-related presentation materials provided to schools	Elementary and Middle schools	Yearly since October 2004
Sherri Henshaw Coordinator, Keep Bartow Beautiful	Develop a speakers' bureau to provide outreach on storm water issues	Local civic groups	Ongoing since July 2004
Bartow County Staff	Develop mechanism to improve "interjurisdictional cooperation on TMDL and Watershed Improvement issues"	City of Cartersville, Paulding County, and Polk County	Proposed
Kathy Floyd Bartow County Extension Agent	Articles on water quality written for local newspaper, ongoing outreach on water quality issues	Bartow 4-H Club, citizens	Ongoing
Rolling Hills Resource Conservation and Development Council	Envirothon, a yearly district and state competition for high school students testing skills and knowledge of aquatics including water quality, and other environmental topics	High School Students	March 2006
Adopt-A-Stream, in conjunction with Coosa River Basin Initiative (CRBI)	Water quality chemical and biological volunteer training and monitoring, stream clean-up, stream bank and habitat restoration, and visual stream surveys	Individuals, families, school groups, civic clubs, and businesses	Ongoing
Bartow County Board of Tax Assessors	Implement tax relief program for property owners who place conservation easements on all or part of properties, especially for greenspace on Timber lands	Property owners especially those with large timber holdings	Proposed

Bartow Co. Director of Planning and Zoning	Comprehensive stormwater awareness training program	Bartow County Homeowner's Association	Ongoing since July 2004
Janice Granai Park Naturalist, Red Top Mountain State Park	Demonstration rain garden at Red Top Mountain State Park with signage.	Homeowners, Community	Ongoing
Pam Robinson Bartow County Environmental Health	Septic system outreach and education to homeowners using DVDs- has become statewide model for such education	Homeowners	2004
Director of Engineering, Bartow County	Mapping of stormwater drainage outfall areas through out the county. 100% of the county will be mapped in 2006	EPD compliance, MS4 Permit	2006
CRBI	The Coosa River Basin Initiative conducts non-point source pollution education programs for elementary school students in Floyd County through a grant from Temple-Inland. As well, Get the Dirt Out is another project which provides volunteer training for construction site inspection and identification of failure to use BMPs in construction activities. The project was implemented in March 2005 and covers the Northwest Georgia area of the Coosa River Basin.	Elementary school students	Ongoing
Keep Bartow Beautiful Coordinator, Allatoona Community Association	Workshop on proper maintenance of septic systems	Allatoona Community Association homeowners	2006
	Stormwater Management Education and Outreach		
Bartow County	• Complete Center for Watershed Protection's Codes and Ordinances Worksheet	General Public	2006
Bartow County	• Consider Adopting 22 Model Development Principles as discussed in Better Site Design: A Handbook for Changing Development Rules in Your Community where applicable	General Public	2007-2008
Bartow County	• Implement education of community using After the Storm non-point source pollution video presentation on public access channels	General Public	Ongoing
Coosa Valley RDC, stakeholders	• Reconvene Stormwater Working Group to include all counties, municipalities in Coosa Valley RDC area	All counties, municipalities in Coosa Valley RDC area	2006
Coosa Valley RDC, stakeholders	• Will investigate 319 h non-point source pollution grant possibilities regarding funding for development of stormwater management training for municipal employees	All counties, municipalities in Coosa Valley RDC area	2006

Local Governments USDA NRCS/FSA, County Extension Service Coosa Valley RDC, stakeholders	Riparian Buffer Education and Outreach • Consider adopting relevant principles as detailed in 22 Model Development Principles as discussed in Better Site Design: A Handbook for Changing Development Rules in Your Community • Continue education and outreach to local communities through USDA NRCS/FSA, County Extension Service • Will investigate 319 h non-point source pollution grant possibilities regarding purchasing and distribution of education materials encouraging homeowners to develop, maintain riparian buffers	General Public General Public, Homeowners Homeowners	2007-2008 Ongoing 2006
Coosa Valley RDC, stakeholders	**Investigate Funding Sources** • Will investigate 319 grant possibilities regarding development of a project to survey schools in Coosa Valley RDC service area to determine interest in and feasibility of water quality education, specifically on causes of non-point source pollution, importance of riparian buffers, and stormwater pollution prevention	General Public	2006

IX. MILESTONES/ MEASURES OF PROGESS OF BMPs AND OUTREACH

This table will be used to **track and report progress of management measures including BMPs and outreach**. Record milestone dates for:

- Accomplishment of management practices or activities - outreach activities
- Installation of BMPs

To attain water quality standards. Comment on the effectiveness of the management measure, how much support the measure was given by the community, what was learned, how the measure might be improved in the future, and any other observations made. This table can be "pulled out" of this template and used to report and track progress.

Table 8. MILESTONES

MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS PROPOSED	STATUS INSTALLED	COMMENT
Acquire lands along Etowah River for greenspace and riparian buffer preservation in County	Bartow County Greenspace Committee	2000- present		Several land purchases have been acquired along the Etowah and throughout the county; others are under consideration.
Provide septic system maintenance outreach to Bartow County residents	Bartow County Septic System Outreach Subcommittee	Proposed 1/31/06		Will determine best contact and outreach methods. Several possibilities including mass mailing, or developing a student internship
Stormwater education	Bartow County	Proposed 12/05		Through Keep Bartow Beautiful, Stormwater Management, will educate children and homeowners through presentations and website
Components of Bartow County's NPDES Phase II Stormwater Management Plan: Public Education and Outreach				
• School System Stormwater Presentations	Keep Bartow Beautiful Coord.	2004	2004-2006	
• E & S Training Workshop	Bartow County Dir. Engineering	2004	2004	
• Speaker's Bureau	Keep Bartow Beautiful Coord.	2004	Ongoing	
• Stormwater Educational Materials	Bartow County Dir. Engineering	2005	2006	
• Stormwater Web Page	County Engineer/ IT Director	2005	2006	
• Newspaper Articles	Bartow County Extension Agent	2005	2006	
Components of Bartow County's NPDES Phase II Stormwater Management Plan: Public Participation and Involvement				
• Storm Drain Stenciling	Keep Bartow Beautiful Coord.	2003	2004	Volunteers conduct storm drain stenciling for older developments.
• River Clean-up	Keep Bartow Beautiful Coord.	2004	2007	
Components of Bartow County's NPDES Phase II Stormwater Management Plan: Illicit Discharge Detection and Elimination				
• Storm Sewer Map	Bartow County	2004	2004-2006	
• Ordinance/Regulatory Mech. Evaluation	Bartow County	2004	2005	
• Illicit Discharge Detection/Elimination	Bartow County Engineer	2005	2005	

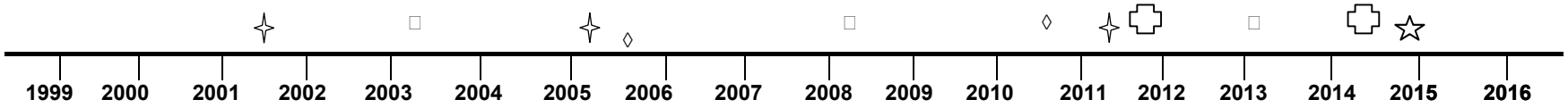
Ordinance • Industry Database • Dry Weather Screening • Source Tracing/Removal Proced.	 Bartow County Engineer Bartow County Engineer Bartow County Engineer	 2005 2005 2005	 2006-2009 2008 2006	
Components of Bartow County's NPDES Phase II Stormwater Management Plan: Construction Site Storm Water Runoff Control • Ordinance Evaluation • Litter Control Ordinance • Development Plan Review • Stormwater Quality Site Inspections • Stormwater Quality Violation Plan • Erosion & Sedimentation Certification • Citizen Complaint Hotline	 Bartow County Engineer Bartow County Engineer Bartow County Engineer Bartow County Engineer/Inspection Bartow County Engineer/Inspection Bartow County Engineer Code Enforcement/ County Engineer	 2004 2005 2005 2005 2005 2005 2005	 2006 2006 2006 2006 2006 2006 2006	
Components of Bartow County's NPDES Phase II Stormwater Management Plan: Post-Construction Storm Water Management in New Development and Redevelopment • Ordinance Evaluation • Stormwater Management Ordinance • Conservation Subdivision Ordinance • Adoption of Stormwater Design Manual • Countywide Watershed Assessment • BMP Mapping • Stormwater Management Facility Inspection & Maintenance Program • New Stormwater Management Facility Water Quality Assessment	 Bartow County Engineer Bartow County Engineer Bartow County Engineer Bartow County Engineer Director- Water & Sewer County Engineer Road Dept. Director/ County Engineer County Engineer	 2004 2005 2005 2003 2005 2005 2005 2005	 2005 2005 2005-2006 2003-2006 2006-2010 2005-2006 2005 2005	
Components of Bartow County's NPDES Phase II Stormwater Management Plan: Pollution Prevention and Good Housekeeping • County Fleet Maintenance Fluids Recycling • Employee Hazardous Materials Training • Roadside Cleanup • Evaluation, Implementation of Stormwater Pollution Prevention Plans for County Facilities • Bring One for The Chipper • Collection Centers • Existing Pond Water Quality Assessment • Vacuum and Jet Clean Storm Structures	 Bartow County Solid Waste Director County Administrator/ Director, Water & Sewer Solid Waste Director Keep Bartow Beautiful Coordinator Solid Waste Director Road Dept. Director/ County Engineer Road Dept. Director/ Stormwater Superintendent of Operation and Maintenance	 2004 2004 2004 2005 2005 2004 2005 2005	 2004-2006 2004-2008 2005 2006 2005 2004 2005-2007 2005-2008	

• Illegal Dumping Control	Solid Waste Director	2005	2006	
Acquire lands along Etowah River for greenspace and riparian buffer preservation in County	Bartow County Greenspace Committee	2004	2004	
Workshop on proper maintenance of septic systems for Allatoona Community Association homeowners	Keep Bartow Beautiful Coordinator	2006	2006	
Metro North Georgia Water Planning District Model Storm Water Management Ordinances: Post Development Storm Water Management for New Development and Redevelopment	Bartow County	2005	2005	
Metro North Georgia Water Planning District Model Storm Water Management Ordinances: Conservation Subdivision/ Open Space Development	Bartow County	2005	2005	
Metro North Georgia Water Planning District Model Storm Water Management Ordinances: Illicit Discharge and Illegal Connection Ordinance	Bartow County	2005	2005	
Metro North Georgia Water Planning District Model Storm Water Management Ordinances: Litter Control Ordinance	Bartow County	2005	2005	
Metro North Georgia Water Planning District Model Storm Water Management Ordinances: Stream Buffer Protection Ordinance	Bartow County	2005	2005	
Stormwater Management Education and Outreach • Complete Center for Watershed Protection's Codes and Ordinances Worksheet • Consider Adopting 22 Model Development Principles as discussed in Better Site Design: A Handbook for Changing Development Rules in Your Community where applicable • Implement education of community using After the Storm non-point source pollution video presentation on public access channels • Reconvene Stormwater Working Group to include all counties, municipalities in Coosa Valley RDC area	 Bartow County, City of Cartersville Bartow County, City of Cartersville Bartow County, City of Cartersville Coosa Valley RDC, stakeholders	 Summer 2006 2007-2008 Ongoing 2006		

• Will investigate 319 h non-point source pollution grant possibilities regarding funding for development of stormwater management training for municipal employees	Coosa Valley RDC, stakeholders	2006		Application deadline May 31, 2006. Yearly deadline.
Septic System Maintenance Education and Outreach • Investigate expansion of district-wide outreach component to homeowners to include those with existing systems • Will investigate 319 h non-point source pollution grant possibilities regarding septic system maintenance and repair project	Coosa Valley RDC, stakeholders Coosa Valley RDC, stakeholders	2006 2006		Application deadline May 31, 2006. Yearly deadline.
Riparian Buffer Education and Outreach • Consider adopting relevant principles as detailed in 22 Model Development Principles as discussed in Better Site Design: A Handbook for Changing Development Rules in Your Community • Continue education and outreach to local communities through USDA NRCS/FSA, County Extension Service • Will investigate 319 h non-point source pollution grant possibilities regarding purchasing and distribution of education materials encouraging homeowners to develop, maintain riparian buffers	Bartow County, City of Cartersville USDA NRCS/FSA, County Extension Service Coosa Valley RDC, stakeholders	2007-2008 Ongoing 2006		Application deadline May 31, 2006. Yearly deadline.
Investigate Funding Sources Will investigate 319 grant possibilities regarding development of a project to survey schools in Coosa Valley RDC service area to determine interest in and feasibility of water quality education, specifically on causes of non-point source pollution, importance of riparian buffers, and stormwater pollution prevention	Coosa Valley RDC, stakeholders	2006		Application deadline May 31, 2006. Yearly deadline.

PROJECTED ATTAINMENT DATE

The projected date to attain and maintain water quality standards in this watershed is 10 years from acceptance of the TMDL Implementation Plan by Georgia EPD.



Scheduled EPD Basin Group Monitoring ✧

TMDL Completed □

Revised or Updated TMDL Implementation Plan Accepted ◊

Evaluation of Implementation Plan/water Quality Improvement ✠

Project Attainment for Plans Prepared in 2005 ☆

Prepared By:	Julianne Meadows, Water Resource Planner				
Agency:	Coosa Valley RDC				
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E-mail:	jmeadows@cvrdc.org				
Date Submitted to EPD:	March 31, 2006			Revision:	

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APPENDIX A.
STAKEHOLDERS

List the names, addresses, telephone numbers, and e-mail addresses for local governments, agricultural or commercial forestry organizations, significant landholders, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Steve Bradley County Administrator	135 West Cherokee Avenue Suite 241	Cartersville	GA	30120	(770) 387-5030	Bradleys@bartowga.org
Lamont Kiser Bartow County Engineer	135 West Cherokee Avenue Suite 241	Cartersville	GA	30120	(770) 387-5067	kiserl@bartowga.org
Tammy Decker USDA Rural Development	12 Felton Place	Cartersville	GA	30120	(770) 386-3393	Tammy.decker@ga.usda.gov
Sherri Henshaw Coordinator, Keep Bartow Beautiful	P.O. Box786	Cartersville	GA	30120	(770) 387-5167 Fax: 770.606.2382	henshaws@bartowga.org
Bobby Gay Zoning and Code Enforcement officer	30 Burge's Mill Road	Euharlee	GA	30145	(770) 386-1542 ext 210	code@euharlee.com
Edmund L. Mullinax, City of Cartersville Assistant Director, Engineering	P.O. Box 1390	Cartersville	GA	30120	(770) 607-6296	emullinax@cityofcartersville.org
Lake Allatoona Preservation Society (contact Edmund L. Mullinax)	P.O. Box 1390	Cartersville	GA	30120	(770) 607-6296	emullinax@cityofcartersville.org
Gene Camp Bartow County Water System	P.O. Box 850	Cartersville	GA	30120	(770) 387-5170	campg@bartowga.org
Kenneth M. Akins Etowah Indian Mounds Site Manager	813 Etowah Indian Mound Road, S.E.	Cartersville	GA	30120	(770) 387-3747	Etowah_mounds@dnr.state.ga.us
Jim Stafford City of Cartersville Water Department	P.O. Box 1390	Cartersville	GA	30120	(770) 387-5653	jstafford@cityofcartersville.org
Kathy Floyd County Extension Agent	320 W. Cherokee Ave. Room 112	Cartersville	GA	30120	(770) 387- 5142	Kpfloyd@uga.edu
Katie Knowles USACE Allatoona Dam Natural Resources Spec.	P.O. Box 487	Cartersville	GA	30120	(678) 721-6738	Kathrine.m.Knowles@sam.usace.army.mil
Jim Shinall USACE Allatoona Dam Environmental Compliance Coordinator	P.O. Box 487	Cartersville	GA	30120	(678) 721-6716	James.t.shinall@sam.usace.army.mil
Machelle Simmons,	717 South Wall	Calhoun	GA	30701	(706) 629-2582 X 3	Machelle.simmons@ga.usda.gov

USDA Natural Resource Conservation Service	Street, Suite 1					
Pam Robinson, Environmental Health Dir.	P.O. Box 665	Cartersville	GA	30120	(770) 387-2614	pjrobinson@dhr.state.ga.us
Keith Gilmer Georgia Soil and Water Conservation Commission	700 East 2nd Ave. Suite J	Rome	GA	30161	(706) 295-6131	K_gilmer@gaswcc.org
John Loughridge Georgia Soil and Water Conservation Commission	700 East 2nd Ave. Suite J	Rome	GA	30161	(706) 295-6131	J_loughridge@gaswcc.org
Curt Gervich Etowah Habitat Conservation Program	P.O. Box 287	Acworth	GA	30503	(678) 801-4013	curt@etowahhcp.org
Joe Cook, Executive Director, or Katie Owens, Program Coordinator, Coosa River Basin Initiative	408 Broad St.	Rome	GA	30161	(706) 767-0497	crbi@coosa.org keady@coosa.org
Cindy Haygood Rolling Hills Regional Conservation and Development Council	P.O. Box 1550	Dallas	GA	30132	(770) 505-4288	Cindy.Haygood@ga.usda.gov
Mike Giles Georgia Poultry Federation	PO Box 763	Cartersville	GA	30503	(770) 532- 0473	mike@gapf.org
Kevin Farren Georgia Power, Plant Bowen	317 Covered Bridge Road SW	Cartersville	GA	30120-5907	(770) 380-3890	
Honorable Clarence Brown Bartow County Commissioner	135 West Cherokee Ave. Ste 251	Cartersville	GA	30120	(770) 386- 8372 or (770) 387-5030	
Sam Grove Cartersville City Manager	PO Box 1390	Cartersville	GA	30120	(770) 387-5675	
Honorable Michael Fields Mayor of Cartersville	PO Box 1390	Cartersville	GA	30120	(770) 387-5675	
Molly Grover Bartow Chamber of Commerce	PO Box 307	Cartersville	GA	30120	(770) 382-1466	

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APPENDIX B.

UPDATES TO THIS PLAN

Describe any updates made to this plan. Include the date, section or table updated, and a summary of what was changed and why.

APPENDIX C.

0315010413 Etowah River Lake Allatoona to Richland Creek Field Survey Photographs and Watershed Map

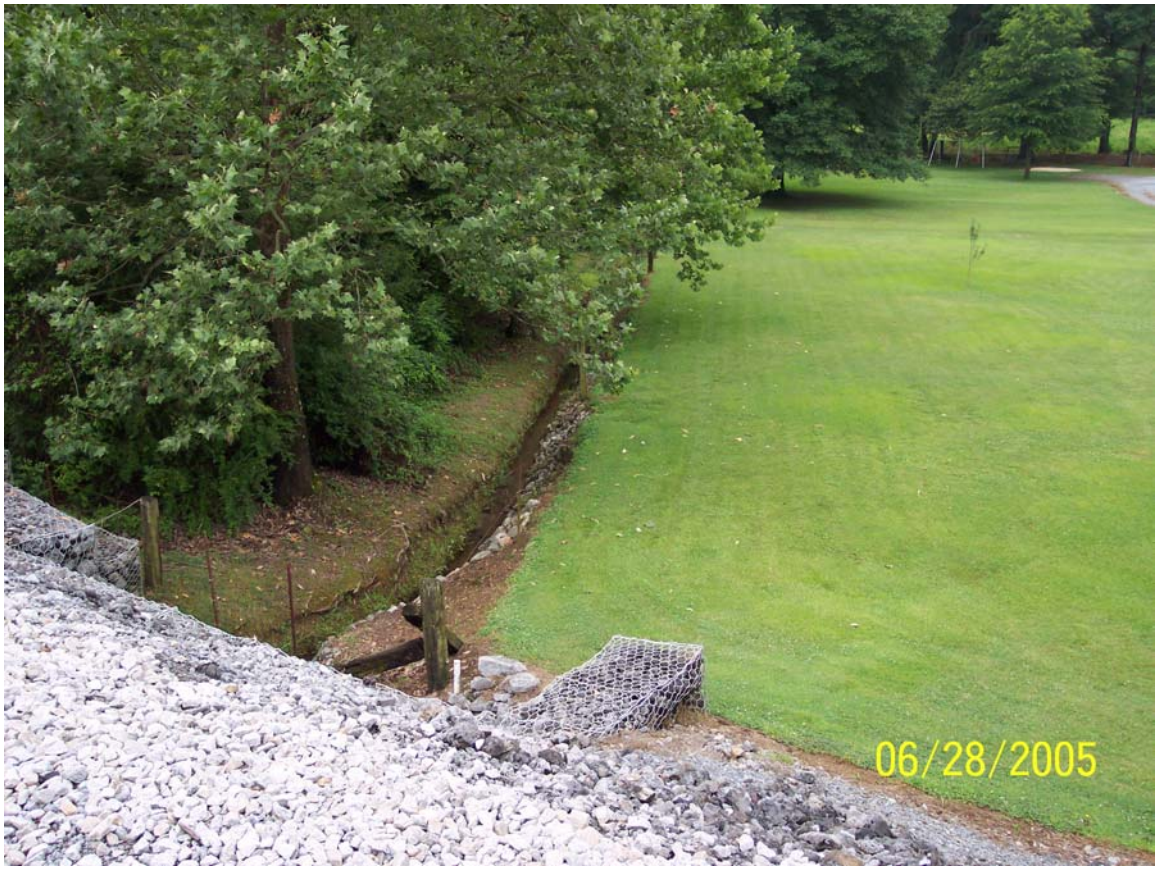
Field Survey Photographs

1. 0315010413 Etowah River, Lake Allatoona to Richland Creek: Hwy 41 North Bridge crossing- Wildlife access, birds seen nesting under bridge.

2. 0315010413 Etowah River, Lake Allatoona to Richland Creek: Hwy 293 North Bridge crossing- Pasture visible on left-hand side of river.

3. 0315010413 Tributary to Petit Creek, City of Cartersville: Tennessee Street side road- Headwaters of tributary drains runoff from highway.

4. 0315010413 Tributary to Petit Creek, City of Cartersville: Jones Mill Rd., Railroad is high point for drainage for tributary; wildlife have access to stream.



5. 0315010413 Tributary to Petit Creek, City of Cartersville: Felton Road, drains residential area.

6. 0315010413 Tributary to Petit Creek, City of Cartersville: Jones Mill Road, banks accessible to wildlife

0315010413 Etowah River Lake Allatoona to Richland Creek Watershed Map